University of Alberta

As Sacred as Cedar and Salmon: A Collaborative Study with Huu-ay-aht First Nation, British Columbia into Understanding the Meaning of 'Resources' from an Indigenous Worldview

by

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Canada

~ *Home* ~

(Adapted from Todd Butler)

I find myself out on the West Coast, staring out across the sea.
I'll always be a prairie girl, but I guess that I have grown.
I have found a new belonging and the Island calls me home.
It's like a feeling, it's like a rainbow, try to touch it and it's gone.
There are storm clouds on the horizon, now I know where I belong.
'Cuz when I saw her, Vancouver Island, I had tears in my eyes.
There ain't nothing like the ocean rolling up to meet the sky.

H T Williams 2006

~ Whatever our souls are, they are the same. ~

(Adapted from Emily Bronte)

Abstract

The recent 'cultural turn' in geography has created space for geographers to employ postmodern, feminist, and postcolonial theories to interrogate our scholarly conceptualization of the human-nature interface. A major focus of this turn has been to explore the role of power between stakeholders concerning contentious land use issues. This dissertation contributes to this area of inquiry through a community-based participatory program of research undertaken in partnership with a First Nation in Canada. The focal point involves an investigation into Indigenous perspectives of the importance and meaning of resources in the context of Western resource management practices. This work draws attention to the continuance of colonial/neo-colonial management policies and practices in Canada, particularly in terms of how power relations between government, industry, and Indigenous peoples influence and are influenced by competing worldviews.

The Nuu-chah-nulth peoples of Huu-ay-aht First Nation, located on the West Coast of Vancouver Island, have had sustained use of the local resources for thousands of years. Since Europeans settled in the area and began intensive forestry practices, the landscape has been negatively impacted. This is particularly true in two places: the waterways, which sustain salmon and the ability of cedar forests to regenerate. Consequently, there has been continued friction among multiple stakeholders regarding the power to define the landscape. As governments begin to honour Indigenous rights and titles, First Nations are in a position to fulfill their role as stewards of their traditional territories. This study is

part of a larger effort on the part of the Huu-ay-aht to protect cedar and salmon, the cornerstones of their culture, and, in essence, to protect themselves.

The contributions of this research are three-fold. Theoretically, the study critically examines the role of power in terms of influencing worldviews and re-defining a key geographic concept - resources - at multiple scales and locations. Methodologically, the applicability of using a participant-employed photography and dialogic exercise, known as Photovoice, is evaluated to determine its appropriateness culturally as an in-depth qualitative approach for investigating community-based issues. Substantively, the results are intended to equip the Huu-ay-aht leadership with tools to reinforce their land-use planning and decision-making.

Dedication

To the Ha'wiih and elected leaders of Huu-ay-aht First Nation - may this study be of use to you in your mission to create certainty for your people.

Klecko Klecko!

… Also to my darling children, Dylan and Jordan,
and to my husband, Jay, for love - for life.

Preface

When I think about how I arrived at this place, I need to reflect a long way back. My parents certainly influenced how I got started… lifelong learning, learning by doing, critical thinking, personal growth and development, social justice, and living in nature were concepts introduced to me first by my parents and later reinforced by a number of people who have influenced my life. Certainly my parents demonstrated these concepts throughout my childhood and youth. My mother, a teacher and librarian, taught me not only the joys of reading but also a fascination for nature at an early age. I watch my mum now, with my four-year old son, walking through the cedars to examine mushrooms or walking on the beach when the tide is out to examine starfish and her exuberance is still contagious. My father, a university faculty member in community development and adult education, continues to challenge me to embrace the concepts of social justice and change into adulthood through critical exploration and investigation. Dad still asks me the 'why' questions when it comes to my research - answers to these questions are often the most difficult to articulate and they challenge me to dig deeper. While the pursuit of formal education was encouraged in our home, so too was education through experience. As a family, we regularly explored the natural environment in the northern Ontario and Manitoba 'wilderness' on canoe and cross-country ski expeditions. We also explored the cultural landscape with nationwide and overseas travel. In addition to my passion for scholarly studies, these activities have continued to shape me.

My first exposure to the intellectual stimulation of higher education occurred in junior high school when I attended a university summer camp that exposed young people to courses such as anthropology, electrical engineering, interior design, and pharmacy. I immediately developed a passion for anthropology - not surprising, as it is an extension of my family's influence to embrace human diversity and difference. A few years later, while my father was pursuing doctoral studies in the United States, I had the opportunity to take an anthropology class at the local high school. The teacher gave a reading assignment on an article "The Body Rituals of the Nacirema", which described the 'bizarre and fascinating' daily rituals of a particular cultural group - at the end of the article, it was revealed that 'Nacirema' was 'American' spelled backwards … I was enthralled. I wanted to 'become' an anthropologist in order to bridge cultural barriers and quell racist attitudes that labeled difference as abnormal in our society.

Immediately after high school, I began academic studies in the social sciences. To my disappointment, these introductory courses did not provide opportunities for lively intellectual exchange. The 'student as empty vessel' and 'teacher as expert' approach prevailed. I became disenchanted with university and turned my attention to applied college learning, which involved immersing myself in the challenges facing the Deaf community by learning American Sign Language and the skills of interpretation. The program of study and my experience working in the Deaf community provided the environment I needed to fulfill my desire to become a change agent as I became aware of the marginalization experienced by Deaf people. I became an advocate for accessibility and human rights.

Through my developing awareness of oppression of minority peoples and my exposure to Canadians from all walks of life, I decided to return to university as a mature student and discovered a renewed passion for academic reading, writing, and debate. I turned my attention to the fields of Cultural Anthropology and Indigenous Studies and from that point on was thoroughly engaged in the pursuit of higher education while continuing my work as a professional interpreter. I was fortunate to be exposed to some incredibly passionate and encouraging professors, particularly Dr. Joe Kaufert, who provided mentorship and support. After completing an undergraduate degree, I embraced the independence of life with a backpack, crossing Australia, New Zealand, and the Cook Islands over the course of a year.

Returning to Canada, I engaged in a year of open studies that allowed me to cultivate an appreciation for interdisciplinarity. I decided to continue my academic pursuits at graduate school, which provided multiple opportunities and unexpected diversions from my primary study objectives. While completing the coursework for my Master's program, I found myself accepting an opportunity to go on a six-month internship in Beijing, China developing training programs in the agricultural sector, while living with a local Chinese family. A year later, again through my graduate program, I returned to China to facilitate training exercises with Chinese schoolteachers. I was also fortunate to attend two international arctic social science field courses, first in Northwest Russia and then in Iceland concerning local resource development issues. After a rather circuitous route, I finally settled on return to my birthplace - Yellowknife in the Northwest Territories of Canada - to combine my life experience with my academic study. As a result, I engaged in a unique graduate inquiry regarding a northern health issue that was both politically and culturally sensitive. My graduate thesis explored the challenges faced by an Indigenous Deaf youth, his family, and their First Nation in northern Canada.

While completing the thesis for my Master's degree, I met Dr. Theresa Garvin in the Department of Earth and Atmospheric Sciences at the University of Alberta and after several conversations with her, began thinking about working with her towards a PhD in Human Geography. I continued to concentrate my program of research in the North. But after two years of preparation in the PhD program, one wedding, one baby, one maternity leave, one field trip to the North with baby and grandparents in tow, and one trip to the hospital for emergency surgery, I found myself on a BC Ferry with my family heading to a new home on Vancouver Island. At that time I began exploring possibilities for a research partnership with a First Nation on the Island. Six months later I was driving to Port Alberni to volunteer at a Cedar Symposium hosted by Huu-ay-aht First Nation…

Acknowledgments

I must begin by thanking my family. To Jay - I could not have even begun to attempt this endeavour without your love and support. Your patience has been constantly stretched to the limit and I think it is only because of your strength (not to mention your sense of humour about the academic circus) that we managed to see this thing through together. To Dylan - I think of all the things I missed doing with you over the last four years because 'Mummy has to work' and ask myself 'was it worth it?'; it helps that we keep reminding each other that we love each other 'forever and ever, no matter what'! Thank you, my son, for constantly filling my life with love and laughter. To my daughter, Jordan - our newest family member - I think it is because I knew you were coming that I actually finished when I did! To my Mum and Dad - thank you for your unwavering confidence that I could do it, your enthusiasm for my learning journey, and your willingness to make my deadlines yours. Thanks also to my sister, Jennifer and her family, and my in-laws, John and Carole, for your never-ending supply of love and encouragement. Thanks also go to my surrogate families in Edmonton, Don and Kelly (and family) especially, for always saying 'yes', as well as Paula, Tobi and Bruce (and family), Monica and David, Kirk and Robert. I would also like to thank friends outside of academia who have helped me maintain at least a little balance during the all-consuming PhD process: Carmela, Kevin, Tarah, Monica, Bo and Guy, Carolin, Mike and Jessie (and family), Holly, Louise, Amanda and Dan (and family), the Die Tri'n Triathlon Club, and the wonderful staff at Camosun College Childcare Services. I must say thanks to my good dog Tai too - for keeping me company while I wrote this dissertation.

I am most grateful to my academic advisors and mentors for their ongoing support. To my supervisor, Dr. Theresa Garvin, I am particularly thankful that you continually challenged me to stretch my intellect and accepted my circuitous path to completion. To Dr. Naomi Krogman and Dr. Tara McGee thank you for your encouragement and thought-provoking discussions at committee meetings. To Dr. Robert Summer, Dr. Ellen Bielawski, and Dr. Maureen Reed thank you for your constructive comments during my defence. To Dr. Nancy Gibson and Dr. Paula Brook thank you for always being there with a kleenex and a hug when I needed it. My peers at graduate school not only played a role in scholarly engagement and friendly debate but also kept me sane. While I studied on campus, Jeff Masuda and Josh Evans were two of the best guys I could ever hope to work with on a daily basis and the multi-disciplinary Circumpolar Students Association Executive, Audrey Giles, Ryan Danby, Jennie Rausch, and Amber Whitford were amazing to collaborate with on a number of projects including an international conference and a book. Also at the University of Alberta, Elaine Maloney and Cindy Mason of the Canadian Circumpolar Institute have been instrumental in my graduate career through conference support, book publishing, grantsmanship, and friendship. Valorie Crooks at Simon Fraser University, Emma Stewart at the University of Calgary, and Jody Macdonald at the University of Alberta have also been instrumental in terms of helping me to 'get through'. Thanks also to the new cadre of graduate students who were there to support me when I was finishing up. I would especially like to mention Dr. Audrey Giles at the University of Ottawa for your constant support, especially during the last two years while I worked off campus. I keep our friendship very close to my heart.

And now I must turn my attention to Huu-ay-aht First Nation. I could not have been more fortunate to have had the opportunity to collaborate with this fine Nation on a research partnership. Everything happens for a reason and how I came to do research with you has clearly happened for a special reason. My thanks go to Ian and Donna Warrender of Victoria for introducing me to Denny and Sara Durocher of Port Alberni who, in turn, introduced me to members of Huu-ay-aht First Nation at a Cedar Symposium in April of 2005. Chief Councillor Robert Dennis, Councillor Stella Peters, Ha'wiih Mexsis Happynook, next-in-line Ta'yii Ha'wiih Naasiismis Derek Peters, carvers Ed Johnson Sr and Gabe Williams, and weavers Annie Clappis and Barbara Johnson who were all at that Symposium were the first to make me feel like I would be welcomed in the community. I would like to especially and respectfully acknowledge Ta'yii Ha'wiih Tliishin Spencer Peters for your important role in supporting this study. I would also like to acknowledge all of the Huu-ay-aht Ha'wiih and the elected Chief and Council of Huu-ay-aht First Nation for granting me permission to conduct the study in your Hahoothlee. I would like to extend heart-felt thanks to my Community Advisory Committee, Jane Peters, Stella Peters, and Ha'wiih Andrew Clappis, Sr. for your wisdom, guidance, inspiration, and friendship throughout the study and long beyond my stay in Ana'cla. I would especially like to thank William (Dempsey) Dennis and Lonnie Nookemus for working with me, Dempsey for your even keel and Lonnie for your constant energy - both for your gentle hearts - we made a hell of a team guys!

I must also deeply thank everyone who participated in this study. Your willingness to share your perspectives on issues that were important to you gave this study meaning. There are a few folks in Ana'cla that I'd like to particularly thank here: Maxine and Oscar Nookemus for always inviting me in, listening to me, nurturing and nourishing me, and helping me learn to knit; Derek Peters and Irene Williams for your continued friendship and for sharing your home, family, and all of your friends with me; Robert Dennis, Mexsis Happynook, and Kathy Happynook for your friendship, mentorship, and words of wisdom; Clifford Nookemus and Larry Johnson for the fish; Roseanne Young for smoking it; Harry Williams for the cedar carving; Pat Lecoy for the fried bread, traveling companionship, and tire-changing assistance; and the 'basketball boys' (Trevor, Kevin, Henry, James, and Lonnie) for keeping me in the game and passing me the ball even though I can't shoot! I would like to say 'Klecko, Klecko' to everyone in Ana'cla for your welcome into the community, for your friendship, and your support of and involvement in this research - it couldn't have happened without you. Looking forward to seeing you on the beach…

Finally, I would like to acknowledge with thanks the support I received from the Social Sciences and Humanities Research Council of Canada (Doctoral Fellowship #752-2002-1303), the CIHR-IAPH Alberta ACADRE Network, the Community, Health & Environment (CHE) Research Centre, the Department of Earth and Atmospheric Sciences, the University of Alberta, the Province of Alberta, the Aurora Research Institute, the Canadian Circumpolar Institute's Circumpolar/Boreal Alberta Research Grant, and the Alberta Chapter of the Canadian Federation of University Women.

~ Heather Castleden ~

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List of Abbreviations, Translations, and Pronunciations*

Abbreviations

Agreement in Principle	AIP
British Columbia	BC
Community-based participatory research	CBPR
Nuu-chah-nulth Tribal Council	NTC

Translations

Hahoothlee	Traditional Territory
Ha'wiih	Hereditary Chief
Hishuk Tsawak	Everything is connected
Ta'yii Ha'wiih	Hereditary Head Chief

Pronunciations

Ana'cla	A-Nac-la
Ha-wiih	Ha-with
Hahoothlee	Ha-hoot-h-lee
Hishuk Tsawak	Hish-uk Saw-wuk
Huu-ay-aht	Who-A-at
Nuu-chah-nulth	New-cha-nulth
Ta'yii Ha'wiih	Tie-yee Ha-with

*Translations and pronunciations are my approximations.

Chapter 1.

INTRODUCTION

One of the central themes of geography as an academic discipline has been the study of the human-nature interface (Knox & Marston, 2007; Massey, Allen, & Sarre, 1999; Norton, 2004; Rubenstein, 2004). Cultural geography, one of several sub-fields of human geography, is best thought of as a politicized intellectual engagement with that interface (Anderson, Domosh, Pile, & Thrift, 2003). The 'cultural turn' in geography as a whole and a recent revitalization in cultural geography has taken place as geographers have begun to employ postmodern, feminist, and postcolonial theories to interrogate our scholarly conceptualization of the human-nature dyad (Cosgrove, 2000; Whatmore, 2003). As a result, geographers identify five foci under the general heading of cultural geography: culture as distribution of things, as a way of life, as meaning, as doing, and as power (Anderson et al., 2003). This last focus, power, is particularly relevant to exploring the human-nature relationship through a postcolonial lens. As a student of social sciences positioned at the nexus between postcolonial and critical social theories, the research I have undertaken for this dissertation is imbued with the ideas generated from this revitalization of the cultural geographical tradition and present in the proceeding chapters.

Employing a community-based participatory program of research, the overarching goal of this dissertation is to understand one coastal First Nation's perspectives and practices concerning resources, particularly cedar and salmon, in the context of contemporary natural resource management practices[1]. The central research question guiding this project is: How do the Huu-ay-aht[2] people of the West Coast of Canada perceive the risks to cedar and salmon and how do these perspectives impact internal and external resource development decisions regarding the removal of cedar and disturbance of salmon habitat throughout their traditional territory? As a community-based participatory research (CBPR) project, the motivation for conducting this study is two-fold. The primary rationale was to engage in a research partnership with a First Nation concerning issues that were important and meaningful to them. In this case, intensive non-Indigenous forestry practices in the area since the turn of the 20th century have had negative impacts on the landscape, particularly on the rivers and creeks that sustain salmon and the sustainability of old-growth cedar forests (Sheer & Steel, 2006). This environmental damage has led to heated resource disputes between logging companies, governments, environmentalists, and First Nations (Reed, 2000). This study was conducted based on the Huu-ay-ahts' desire to protect cedar and salmon, and, in essence, to protect themselves as 'any one of them out of balance can impact the whole' (Chief Councillor Robert Dennis, personal communication, February 3, 2006). Equally important, this research has been conducted in an effort to contribute to an academic and public understanding of the nature of competing social constructions of contested landscapes. This is particularly relevant to both arenas in light of the provincial government's efforts to establish a 'new relationship' with First Nations in BC based on 'respect, recognition and reconciliation of Indigenous peoples' rights and title' (British Columbia, 2001, para. 1) and an emerging trend in industry to engage in more collaborative co-management practices and joint ventures with First Nations (Natcher, Davis, & Hickey, 2005).

---

[1] First Nation is a term used to identify the Indigenous peoples and their descendents in what is now known as Canada. The term came into common usage in the 1980s to replace the term 'Indian Band'.

[2] The current elected Council of Huu-ay-aht First Nation has given permission to be identified as the participating First Nation in this study.

The chapters in this thesis use a community-based participatory design (Chapter 2) to identify, document, and examine Huu-ay-aht First Nation's worldview (Chapter 3) in the context of their relationship to cedar and salmon (Chapter 4). Chapter 1 is a general introduction to the dissertation, which uses a paper-format as outlined by the Thesis Handbook produced by the Faculty of Graduate Studies and Research at the University of Alberta. Having identified the research goal and rationale, a background section describing the research setting immediately follows. A brief explanation for my choice of research methods is provided followed by my positionality as a non-Indigenous researcher engaging in research with Indigenous peoples. Details are given concerning the research project, including my approach to the research and community entry. An overview of the data collection and analysis process follows. Key concepts used throughout the dissertation are then given conceptual grounding. Finally, the structure of this dissertation is provided.

1.1 Background

Members of Huu-ay-aht First Nation are descendents of Nuu-chah-nulth peoples[3]. In order to socio-culturally and politically contextualize this study, this section begins with an overview of Nuu-chah-nulth peoples generally and then moves into a detailed description of Huu-ay-aht First Nation.

1.1.1 Nuu-chah-nulth Peoples

1.1.1.1 Location and Occupation

Nuu-chah-nulth peoples have claimed a presence on the West Coast of what is now known as Vancouver Island[4] for thousands of years (Atleo, 2004). Though scholarly debate continues, evidence suggests Nuu-chah-nulth peoples have been on the Island for at least 5,000 years (Stewart, 2005) and as long as 40,000 to 75,000 years (Ward, Frazier, Dew-Jager, & Paabo, 1991). The traditional territory of the Nuu-chah-nulth peoples extends approximately 300 kilometres along the West Coast of Vancouver Island from Brooks Peninsula in the north to Point-no-Point in the south (see Appendix 1: Map of Nuu-chah-nulth territory) (Nuu-chah-nulth Tribal Council, 2007b). The inland boundaries generally follow the Beaufort Mountain Range that divides the east and west sides of Vancouver Island while the off-shore boundaries include peripheral islands and extend to deep-sea waters (Stewart, 2005). The physical landscape is characterized by rocky headlands and sandy beaches on the outer coastline, less rugged channels, bays and inlets along the inner coastline, as well as estuaries, river valleys, inland lakes, and mountains (Karpiak, 2003). The landscape also includes old-growth temperate rainforests, which are being rapidly replaced with tree farms (Braun, 2002).

---

[3] Nuu-chah-nulth peoples were formerly referred to as 'Nootka', an ascribed name given to them by early European explorers.

[4] Vancouver Island was named after a British Royal Naval Officer, George Vancouver, who led expeditions along the coast between 1791 and 1794.

An exact population figure for the Nuu-chah-nulth prior to European contact is also debated. When early European explorers first arrived in the late 1700s, they estimated that there were approximately 30,000 Nuu-chah-nulth, however, more recent archaeological evidence suggests there may have been between 70,000 and 80,000 Nuu-chah-nulth peoples living in the area (Arima, 1983). Because the region is rich in marine and land-based resources, it has been able to sustain this substantial Indigenous population throughout history (Turner, 2005). European estimates are conceivably low because Nuu-chah-nulth peoples moved seasonally to harvest and prepare foods, medicines, and other materials, and also engaged in trade missions, which presented challenges to the European enumeration process (Ommer & Turner, 2004). There are presently 14 Nuu-chah-nulth First Nations[5] with approximately 8,000 Nuu-chah-nulth members (Nuu-chah-nulth Tribal Council, 2007b).

1.1.1.2 European Contact

Since the time of contact with Europeans Nuu-chah-nulth peoples have refused to surrender, extinguish, or sign away authority or ownership of lands and waters in their territory (Nuu-chah-nulth Tribal Council, 2007a). No Treaty or formal agreements have ever been entered into with European or Canadian governments. However, similar to the experience of Indigenous peoples across North America, Nuu-chah-nulth social, economic, political, cultural, educational, and health institutions have come under attack through early European colonial policies and practices[6] (Harris, 2002). At the same time, the Indigenous population was decimated by as much as 90 percent as a result of European-introduced diseases including smallpox, tuberculosis, and influenza (Waldram, Herring, & Young, 1995).

The Indian residential school system, originally operated by church missions, was the main avenue for the colonization process[7] (Fournier & Crey, 1997). Indian education became a federal responsibility in 1867 and by 1920 attendance at (boarding and day) residential schools was mandatory (Canada, 2007). The last residential school closed in 1996 - the same year the five-volume 4,000 page watershed report of the Royal Commission on Aboriginal Peoples was released (Canada, 2007). The Indian Act of 1876 is a piece of federal legislation that continues to control and regulate Indigenous peoples in Canada to this day. For example, under provisions of the Indian Act, the federal government was able to remove Nuu-chah-nulth peoples from their traditional seasonally-based homes and relocate them to small Indian Reserves where many still live today (Miller, 1991). Amendments to the Indian Act in 1884 allowed the federal government to extend their control over the Nuu-chah-nulth by declaring a prohibition of the West Coast potlatch (Canada, 1996). Potlatches are extremely complex and significant ceremonies, which celebrate and mark occasions (e.g. births, marriages, deaths, and memorials) and, at the same time, recognize the political structures and ongoing economic, social, and spiritual relationships in Nuu-chah-nulth culture (Bracken, 1997; Cole & Chaikin, 1990; Schreiber, 2002). Characteristics of the potlatch also involved a food distribution system, property rights, environmental ethics, rules concerning how titles are held (or earned), public accountability, and a reciprocal exchange system (Trosper, 2003). While the federal government decreed potlatches illegal Nuu-chah-nulth peoples continued to potlatch in secret. After the prohibition was rescinded in 1951 public potlatches resumed (Cole & Chaikin, 1990). Although strong in their sense of identity and in their political and social structures, the Nuu-chah-nulth continue to be affected by the consequences of colonialism (Ashcroft, Griffiths, & Tiffin, 2000).

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[5] The fourteen First Nations include Huu-ay-aht, Ditidaht, Hupacasath, Tse-shaht, Uchucklesaht, Ahousaht, Hesquiaht, Tla-o-qui-aht, Toquaht, Ucluelet, Ehattesaht, Ka:'yu:'k't'h'/Che:k'tles7et'h' (Kyuquot/Cheklesahht), Mowachat/Muchalaht, and Nuchatlaht

[6] See Anastasia Shkilnyk's (Shkilnyk, 1985) seminal work *A Poison Stronger than Love: The Destruction of an Ojibwa Community* for a detailed account of the effects of colonization in one Indigenous community in Canada.

[7] See the Nuu-chah-nulth Tribal Council's (1996) report on the Indian Residential School experience for Nuu-chah-nulth peoples.

1.1.1.3 Political Structure

The Nuu-chah-nulth peoples formed an alliance in 1958 known as the West Coast Allied Tribes (Nuu-chah-nulth Tribal Council, 2007b). In 1973, this alliance became incorporated as a non-profit society called the West Coast District Society of Indian Chiefs and six years later the Society changed its name to the Nuu-chah-nulth Tribal Council (NTC) (Nuu-chah-nulth Tribal Council, 2007b). The NTC is governed by an elected Board and offers a wide range of services and programs to registered members of the 14 Nuu-chah-nulth First Nations. (Nuu-chah-nulth Tribal Council, 2007b).

In 1994 NTC began negotiating a Treaty settlement with the Governments of Canada and British Columbia on behalf of its 14 First Nations. NTC's goal has been to seek a just settlement of the 'land and sea question' within all of their respective territories (Nuu-chah-nulth Tribal Council, 2007a). In 2001 NTC reached a draft Agreement in Principal (AIP) with the provincial and federal governments. However, when the NTC took the AIP to their membership, only five of the fourteen First Nations voted in support[8]. As a result, negotiations splintered and the Nuu-chah-nulth First Nations have since entered into Treaty negotiations at differing stages.

1.1.2 Huu-ay-aht First Nation

This study is a research partnership with Huu-ay-aht First Nation, one of the fourteen Nuu-chah-nulth First Nations.

1.1.2.1 Location, Population, and Governance

The Huu-ay-aht traditional territory, known as their Hahoothlee, is located in Barkley Sound. It is approximately 250 kilometres northwest of the provincial capital of Victoria (See Appendix 2: Map of Huu-ay-aht First Nation). The Hahoothlee encompasses approximately 78,000 hectares on the West Coast of Vancouver Island. However, the present federal reserve system (Kennedy, 1995) has legislated only 816 hectares of land divided among the 13 reserves for Huu-ay-aht First Nation (BC Ministry of Aboriginal Relations and Reconciliation, 2006). The main Huu-ay-aht village, Ana'cla, is located in Pachena Bay on Barkley Sound (Huu-ay-aht Indian Reserve #12). Ana'cla is approximately 80 kilometres southwest of the nearest urban centre of Port Alberni, a major forestry and fisheries town, and three kilometres south of the village of Bamfield, a well-known tourist destination. Access to Ana'cla is by water or privately owned gravel logging roads (Findlay-Brook, 1997).

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[8] The five First Nations include: Huu-ay-aht First Nation, Ucluelet First Nation, Toquaht Nation, Ka:'yu:'k't'h'/Che:k'tles7et'h' (Kyuquot/Cheklesahht) First Nations, and Uchucklesaht Tribe

While the Huu-ay-aht population numbered in the thousands at one time fewer than 250 survivors remained by the mid 1800s (Huu-ay-aht First Nation, 2007b; Simms, 2004). At present there are approximately 600 members of Huu-ay-aht First Nation (BC Ministry of Aboriginal Relations and Reconciliation, 2006) of which roughly 150 live 'on reserve' in Ana'cla. The majority of Huu-ay-ahts live 'off-reserve' in nearby cities.

Understanding Huu-ay-aht culture involves an appreciation for their traditional hereditary chieftainship system, known as the Ha'wiih, and the responsibilities associated with the Hahoothlee (Huu-ay-aht First Nation, 2007b). The Ta'yii Ha'wiih (hereditary head chief) is responsible for the welfare and well being of the Hahoothlee and for the extended families in it (Huu-ay-aht First Nation, 2005b). Prior to the introduction of the federal reserve system, extended families worked together, moving to different known locations throughout the seasons to harvest and process materials and supplies (Ommer & Turner, 2004). With the introduction of the Indian Act, First Nations in Canada were required to form democratically-elected Councils. Therefore, the Huu-ay-aht leadership also includes an elected Council. This Council interacts directly with the provincial and federal governments. However, the Ha'wiih still play an important role in community decision-making on the ground, resulting in both the traditional and elected leadership systems operating in tandem.

1.1.2.2 Huu-ay-aht Worldview of Cedar and Salmon

The Huu-ay-aht worldview, known as 'Hishuk Tsawak' is based on an interconnected balance between people, nature, and the spiritual world. Hishuk Tsawak roughly translates as 'all is one and everything is interconnected' (Atleo, 2004; Huu-ay-aht First Nation, 2007b; Turner, 2005). Nature and local resources have exponential importance for many Indigenous peoples in Canada. Indigenous peoples have had a close inter-dependent relationship to the land for thousands of years (Lewis & Sheppard, 2005; Oakes et al., 2004; Simpson, 1999). The inextricable links between the environment (surroundings/territory) and Indigenous peoples' sense of health and well-being add multiple layers to the meanings they attach to place (Berkes, 1999; McGregor, 2004). Similar to most Indigenous communities, Huu-ay-ahts have long-established traditions of utilizing local resources (Turner, 2005). In their case, the copious forest and marine resources in and around Barkley Sound were and continue to be drawn upon (Huu-ay-aht First Nation, 2005a). Particularly important to Huu-ay-aht First Nation are cedar and salmon, which are the cornerstones of traditional Huu-ay-aht culture (Huu-ay-aht First Nation, 2005b). In fact, their worldview is present in their daily symbiotic and intimate association with and use of cedar and salmon. Every year five species of wild salmon migrate successively, spawning in the 35 salmon-bearing rivers throughout the Huu-ay-aht Hahoothlee. The forest resources, particularly cedar, have provided housing, transportation, clothing, heating, tools, storage, medicines, and are still used for functional purposes, artistic expression, and spiritual practices (Huu-ay-aht First Nation, 2005b).

1.1.2.3. European Encroachment on the Huu-ay-aht Hahoothlee

Bamfield and the West Coast Trail

In the late 1700s Europeans began exploring and trading seal furs in the Barkley Sound area (McKechnie, 2005). In 1859 Eddy Banfield, the first government agent to settle in the area, was responsible for naming the current town site of Bamfield (Bamfield Community School Association, 2005). By the late 1800s Huu-ay-ahts were removed to their federally-designated Indian Reserves and the Bamfield town site became a fur trading post and commercial fishing community.

Bamfield is also the West Coast terminus for the trans-Pacific telegraph cable station, which operated from 1901-1959 (Bamfield Marine Sciences Centre, 2005). In 1907 the telegraph land line between Victoria and Bamfield was completely upgraded and the access trail became known as the 'Dominion Life Saving Trail' serving as an escape route for passengers and crews surviving shipwrecks in the rugged coastal waters (Quu'as West Coast Trail Society, 2007). In 1954 the federal government abandoned trail maintenance due to improved marine navigation and communication technology (Bamfield Community School Association, 2005). The cable station was abandoned from 1959 until 1970 when five western Canadian universities jointly purchased the buildings and property to form the Bamfield Marine Sciences Centre (BMSC), a marine research facility (Bamfield Marine Sciences Centre, 2005).

In 1971 Parks Canada established the Pacific Rim National Park, which includes the trail and began trail upgrades two years later (Quu'as West Coast Trail Society, 2007). In 1993 the world renowned 75 kilometres long West Coast Trail was formally opened to serve as an adventure hiking trail for outdoor enthusiasts (Bamfield Community School Association, 2005). The northern terminus of the Trail is Ana'cla in Pacheña Bay. Huu-ay-aht First Nation has taken an active role in the maintenance, protection, and heritage education of the Trail through the Quu'as West Coast Trail Society (Quu'as West Coast Trail Society, 2007). Huu-ay-aht First Nation also works collaboratively with scientists at BMSC on a number of marine projects (e.g. the Bamfield Huu-ay-aht Community Abalone Project) throughout their Hahoothlee.

Fisheries, Forestry, and Tourism

British Columbia has long been recognized for its wealth in natural resources, particularly its fisheries and forests (Dearden & Mitchell, 2005). It is also a highly desirable tourist destination given the beauty of its natural landscape. In recent years though commercial fishing stocks have been depleted from over-fishing (Lackey, 2003). However, Barkley Sound is still recognized for its salmon and halibut fishing and Bamfield has re-created itself as a sport fishing and tourism centre (Findlay-Brook, 1997). While fisheries and tourism are important, forestry has been the economic mainstay of the region since

European settlement (Braun, 2002). Forest-dependent communities sprung up across the province and employment of logging production workers continued to climb until the 1980s (Marchak, Aycock, & Herbert, 1999). At present, approximately 50,000 hectares of forest are logged annually in BC (Dearden & Mitchell, 2005), yet despite an increase in the volume of logs, lumber, and pulp produced, there has been a steady decline in employment (Marchak, et al., 1999). To date, more than 60 percent of the Huu-ay-aht Hahoothlee has been clear-cut and recent provincial land use plans will potentially open up to 95 percent of the Hahoothlee to industrial forestry (Denman Community Forest Cooperative, 2005).

1.1.2.4 Economy

The Huu-ay-aht wage-based economy is currently centred on fisheries, forestry, and tourism. The Nation administers its own forestry and fisheries departments. The forestry department is responsible for overseeing external logging activities and monitoring environmental impacts caused by logging throughout its territory. Several Huu-ay-aht members work for the Nation's own logging company as well as privately-owned commercial companies in the area. The Nation also operates a successful hatchery, fishery, and aquaculture (oysters and clams) business. In response to the extensive environmental damage, the Nation's fisheries department has engaged in river and stream restoration work over the past seven years. In terms of tourism, the Nation owns and operates a full-service campground that receives tourists from around the world. Huu-ay-aht First Nation is also currently in the process of developing further cultural tourism and eco-tourism in the area, including, for example, their traditional village site, known as Kiix?in, which is the only standing remains of an entire traditional Nuu-chah-nulth village still in existence. Kiix?in is under consideration for a Heritage Site designation by the Historic Sites and Monuments Board of Canada (Huu-ay-aht First Nation, 2007a).

1.1.2.5 Contemporary Political Context

In the 1970s and 1980s, public concern over the disappearing old growth rainforest on Vancouver Island began to escalate (Braun, 2002). By 1993 the largest demonstration of civil disobedience in Canadian history took place in Clayoquot Sound (near Huu-ay-aht First Nation) to protest the destruction of the rainforests on the West Coast (Braun, 2002; Reed, 2000). As a result of international public pressure, UNESCO gave Clayoquot Sound a World Biosphere Reserve designation[9] at the turn of the century. More recently the provincial government issued tree farm licenses (TFLs) in and around Barkley Sound permitting the removal and deregulation of thousands of hectares of forest (BC Treaty Commission, 2003). Of particular relevance to this study is TFL #44, which includes over 70,000 hectares of forest some of which overlaps the borders of the Huu-ay-aht Hahoothlee (see Appendix 3: Map of Tree Farm License #44 overlapping Huu-ay-aht First Nation) (West Coast Environmental Law Research Foundation, 2004). While the Huu-ay-aht land represents less than 20 percent of TFL #44, over 50 percent of the annual allowable cut is being taken from within Huu-ay-aht boundaries (Simms, 2004).

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[9] The UNESCO designation does not protect the area from logging and in 2006 a plan was approved by the provincial government to allow logging of old growth in Clayoquot Sound.

As mentioned previously, the NTC drafted an AIP on behalf of its 14 First Nations. Huu-ay-aht First Nation was one of the five First Nations that voted in favour of ratifying it. Since then this group of five has continued collaborative negotiation on a joint Treaty under the name 'Maa-nulth First Nations'. In late 2006 this group initialled a Final Treaty Agreement with the Governments of Canada and British Columbia. The Final Agreement includes a self-governance provision, land package, land use planning protocols, law-making authority, rights to resources, and financial transfers (BC Ministry of Aboriginal Relations and Reconciliation, 2007). The Treaty negotiating team for the group is now in the process of conducting a ratification vote among each of the five First Nations. Huu-ay-aht First Nation conducted its ratification vote in July, 2007 with 90 percent of the eligible membership voting in support of ratification. The Huu-ay-aht leadership has already begun to make use of the findings from this doctoral work to develop their land use plans and resource use protocols. If the entire 5-Nation Maa-nulth membership ratifies the Final Agreement, then both the provincial and federal governments would go through similar ratification processes. Should all three parties ratify, the Final Agreement will become a Treaty (Government of British Columbia, Indian and Northern Affairs Canada, & Maa-nulth First Nations, 2006). In anticipation of full ratification, Hu-ay-aht First Nation has developed and recently (April 28, 2007) adopted its own constitution.

1.2 The Research Project

1.2.1 Research Approach

A community-based participatory approach to this research has been undertaken in response to a history of academic misappropriation and misrepresentation of Indigenous Knowledge[10] (Battiste & Youngblood, 2000; Gibbs, 2001; Habashi, 2005; Smith, 1999). Community-based participatory research (CBPR) is a philosophical and methodological approach to research (Israel, Eng, Schulz, & Parker, 2005; Minkler & Wallerstein, 2003) that has become the preferred approach undertaken in partnership with Indigenous peoples in Canada (Association of Canadian Universities for Northern Studies, 1998). In fact, national Indigenous health organizations have put out a specific research call, one that concerns the ethics of engaging in Indigenous research, namely to engage in community-based participatory research that addresses, among other things, issues of power, trust, and ownership (Canadian Institutes of Health Research, 2007; National Aboriginal Health Organization, 2005). There has been and continues to be a significant imbalance of power between western academics and Indigenous communities as well as general mistrust of academic inquiry (Battiste & Youngblood, 2000; Gibbs, 2001; Habashi, 2005; Smith, 1999). Consequently, Indigenous peoples are justifiably reluctant to become the 'subjects of academic research' (Pualani Louis, 2007). CBPR is an effort to conduct research that will balance differences in power, foster trust between partners, and create a sense of ownership over the research process and outcomes (Ristock & Pennell, 1996; Wallerstein & Duran, 2006).

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[10] Indigenous peoples are often referred to as having Indigenous Knowledge, which is loosely defined as local, culturally specific knowledge unique to a particular Indigenous population or community (McGregor, 2004; Simpson, 1999). It is the intellectual product of direct observation and experience passed from generation to generation (typically) through oral tradition (Berkes, 1999).

In order to encourage equity, there is a growing trend towards building capacity in the community, through, for example, training and employing local people in research (Corbie-Smith, Moody-Ayers, & Thrasher, 2004). There is also increasing emphasis on researchers to be explicit about their positionality as well as transparent regarding the methods used for gathering and interpreting results (Parlee, 2006). The approach used in this research included working closely with Huu-ay-aht First Nation through a Council-appointed Advisory Committee as well as hiring and training local community researchers to contribute to the data collection and analysis process. Formal reporting to the Huu-ay-aht Council and the Advisory Committee regarding the research and results took place on a regular basis throughout the study. Communication about the research also took place at an individual level on an opportunistic basis throughout the data collection period and until the end of the project. Multiple avenues of information sharing were employed including community newsletter announcements, potluck dinners, posters, and a plain-language summary of the research that has been provided to the First Nation[11]. The Huu-ay-aht Council and Advisory Committee reviewed all three papers prior to their submission to scholarly journals and the Council gave permission to identify the Nation in this dissertation and all publications. The Council's interest in including Huu-ay-aht First Nation as a co-author in academic publications and presentations was also sought and confirmed. Despite these approvals and contributions, the final interpretations presented in this dissertation are my own.

As a student of social sciences influenced by postcolonial and critical social theories, prescribing to the idea of 'objectivity' in social *or* physical research does not hang together for me. Rather, I believe that academics who claim objectivity are misleading themselves and those to whom they are communicating their results. Our socially constructed worldview, that to which we are socialized from infancy, creates a first layer of bias to the way we engage with our research. Our life experience presents a second layer, disciplinary affiliation presents a third, faculty requirements present a fourth, funding guidelines present a fifth, and so on. Particularly because this is cross-cultural research, my positionality must be transparent and considered throughout every aspect of the study. I am a Caucasian woman, married with two children. I was raised and now live in a middle class suburban neighbourhood (for a detailed account of my positionality, I refer readers to the Preface). I therefore bring my own particular perspective to the work, and such a position must be explicit.

1.2.2 Community Entry

In April 2005 Huu-ay-aht First Nation organized a Cedar Symposium to not only provide a forum to communicate about the importance of cedar but to also gather 'strength of claim' data about their past, present, and future cedar needs. An associate suggested I connect with the Symposium organizer about attending the Symposium. The organizer invited me to volunteer as the Symposium photographer. I accepted and while there I engaged in informal dialogue with several Huu-ay-aht elected and hereditary leaders about the possibility of a community-based participatory research partnership.

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[11] The Huu-ay-aht Council and Advisory Committee have received copies of the three papers (versions of Chapters 2-4) produced for this dissertation.

After attending the Huu-ay-aht cedar symposium, talking with the leadership about a research partnership, thinking about my academic goals, and how I could respond to the research call about ethical Aboriginal research, the guiding research question was identified[12]. The study developed into a partnership with Huu-ay-aht First Nation based on the community's self-identified need to protect important resources. By June 2005 the Huu-ay-aht Council approved the research proposal and immediately appointed an Advisory Committee (one elected Councillor, one Hereditary Chief, and one experienced community researcher) to collaborate on the research design, pilot test the data collection process, receive oral and written reports, and provide guidance to the research team throughout the study. Meetings with the Advisory Committee occurred throughout the course of the data collection period. These meetings took place primarily at my request. The CBPR process at those meetings involved discussions of colonialism and power and thus forged the way for agreement, trust; and community control. Once the partnership and research plan was established in October 2005, funding proposals were developed and funding was obtained from the CIHR-IAPH Alberta ACADRE Network in November 2005.

1.2.3 Data Collection and Analysis

In qualitative research, data analysis typically begins while the data collection is still underway (Cresswell, 1998; Richards, 2005). Such an iterative process was taken in this study wherein four major phases of analysis took place (Summers, 2005). The first phase of analysis took place in the community during data collection. There were four analytical contributions during this phase. First, the Advisory Committee contributed their insights during the pilot-testing of the Photovoice process. Second, the participants reflected on and photographed their environment and health risk priorities. Third, the research team analyzed the data collection process to ensure that the data being collected was relevant to the guiding research question. Fourth, the community engaged in analysis through their participation at the potluck dinners.

The second phase of analysis also began in the community during data collection and involved the research team's preliminary analysis of the data. This phase continued after the data had been collected and I had left the community. The third phase of the analysis took place after I left the community. This phase involved in-depth conceptualization and re-analysis of the preliminary findings. The final phase involved returning the findings to the Huu-ay-aht leadership for their final scrutiny. Consequently, the data collection and analysis phases were overlapping in this project.

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[12] Numerous authors of texts concerning qualitative research indicate that researchers tend to lose focus in the field and fail to sufficiently collect relevant and adequate data (e.g. Creswell, 1998 and Miles & Huberman, 1994). As a result, Summers (2005) suggests that researchers develop guiding questions in relation to their conceptual framework, which serve as a bridge between the data collection and the goals of the research. As identified on page 1 of this Chapter, the guiding research question for this project was: How do Huu-ay-ahts perceive risks to cedar and salmon and how might these perspectives impact past, present, and future resource management decisions regarding the removal of cedar and disturbance of salmon habitat throughout their traditional territory?

1.2.3.1 Phase 1

In June 2005 I presented an outline for the research design to the Huu-ay-aht Council. The Council approved the design in principle and referred it to the Advisory Committee. The Advisory Committee's suggestions for modifications and differences of opinion were resolved through dialogue and explanation. After pilot-testing the photo and dialogic exercise with the Advisory Committee, I evaluated the process with them. This was the first contribution to the in-community analysis. We determined whether the semi-structured individual interviews would be adequate and appropriate in terms of the data we sought relative to the research question. As interviews began, I engaged one or more members of the Advisory Committee to reflect on and further refine the process in an iterative manner. I also used a field journal to reflect on the interview process and content.

Participant recruitment began in October 2005 with assistance from the Advisory Committee (see Appendices 4-11). We bounded the study by limiting participation to Huu-ay-aht people living within the boundaries of Huu-ay-aht First Nation. The Advisory Council also identified and recruited a nominal number of Huu-ay-ahts leaders outside of those physical boundaries as well as non-Huu-ay-ahts living in the village. As such, participants were recruited using stratified purposeful and opportunistic (snowball) sampling (Creswell, 1998). In total, 45 people participated in the Photovoice exerciseincluding the Advisory Committee and community researchers. Participants ages ranged from 19-75 (male=25, female=15). Five participants withdrew from the study due to limited time to commit to the project.

Participants took part in a short training session regarding the ethical and technical use of the cameras. They were then given a 27-exposure disposable camera. We asked participants to take photographs of places and activities that represented environment and health risks as well as places and activities that represented health, safety, or well-being. When asked, the research team would briefly elaborate on the terms 'environment, health, and risk' in the following ways. 'Environment' included anything in the participants' surroundings and throughout the Huu-ay-aht traditional territory. We specified that health could be conceptualized based on the World Health Organization's wholistic definition (a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity). We indicated that risk could include participants' perspectives of uncertainty, concern, worry, threats, and dangers. We also suggested that participants consider themselves, their families, and their community as subjects relative to these three terms.

As participants returned their completed cameras, we developed the film and scheduled interviews. Each interview began with a preamble followed by a general line of questioning. Then the participant's photographs were used to guide the interview. Participants were shown each photograph and asked where each picture was taken, why it was taken, and what meaning it held for them (see Appendix 12). After the participants had finished talking about their individual photographs, we asked participants to choose one photograph that represented their priority in terms of environment or health risks, and one photograph that represented their priority in terms of well-being or safety. Before each interview concluded we asked participants to share their perspective concerning the Photovoice process (e.g. did they like it, why or why not, would they do it again). After the interview, we provided participants with a copy of their photographs. An unannounced honorarium was also provided at the conclusion of the study. The photos and the honorarium were gestures of appreciation, thanking participants for their active involvement in the research.

Asking participants to identify their preferred photos in the interview was the second contribution to analysis during the first phase. It was an opportunity for participants to further reflect on and prioritize their environment and health risk perspectives. It also aided the research team in data analysis and for communicating back participants' priorities for action. The nature of a Photovoice study is to meaningfully engage people in active participation and sense-making of the issues under investigation. Because participants were asked to take pictures of images representing issues that were important to them, the participants themselves became substantially involved in the first phase of analysis because they determined, through photography, what was important. By definiting what was important, each participant set the parameters for the subsequent interview.

The third contribution to this phase of analysis began with the employment of two community researchers. These individuals were trained to recruit participants following a standardized recruitment format (see Appendix 4-5)[13]. They also were involved in collecting and analyzing the data. We held debriefing sessions after each interview. These sessions involved discussions of the process and content in an effort to continually improve our interviewing techniques and to begin to make sense of the data. As the community researchers developed and refined their interviewing skills, they began to conduct interviews without my involvement. However, we continued to engage in the debriefing exercise throughout the data collection period. These meetings initially lasted up to two hours and eventually tapered off to less than 30 minutes as we approached data saturation. I also continued to enter my reflections in my field journal throughout the data collection phase and brought those reflections to the team at our daily meetings.

After a month of data collection and analysis, I met with the Advisory Committee to review our progress. During that meeting we decided to provide updates to the community through three avenues. First, we provided one-page summaries of the study in the local newsletter. Second, we hosted monthly potluck dinners where we unveiled a poster of the participants' 'priority' photographs along with short explanatory interview excerpts. Third, these posters were placed around the community after each potluck dinner. Our goal was to communicate the ongoing products of the research with those who were not at the potluck and those who were not directly participating in the study. Individuals seeking their own complimentary copy were provided one on request. This iterative community engagement represented the fourth contribution to the first phase of the analysis.

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[13] By the time the community researchers became involved in the project, ten participants had been recruited and 3 had completed their photography and interview exercise.

1.2.3.2 Phase 2

During the second phase of analysis all interviews were transcribed verbatim. In this phase the research team, in isolation from one another, conducted a preliminary inductive analysis of the first 5 sets of transcripts, identifying and recording emergent themes. To triangulate interpretations, we compared results and found consistent agreement. Transcripts were returned to participants to confirm transcription accuracy and for comments and/or clarification (see Appendix 13) (Baxter & Eyles, 1997). A one-page statement summarizing the preliminary analysis was appended to each returned transcript and participants were given an opportunity to comment on the overall findings as well as their own transcripts. This second level of analysis took place initially in the community with the full research team but as the data collection period came to an end (due to time and funding constraints) the remainder was carried out away from the community. The data reported in Chapters 2, 3, and 4 emerged mainly from interview text but also from participant observation of the process, reflexive journaling, and peer debriefing with the community researchers, and consultation with the Advisory Committee.

1.2.3.3 Phase 3

Once the second phase of analysis was complete, I began in-depth inductive content analysis (Denzin & Lincoln, 2005) in order to explore and build an explanation of the data (Creswell, 1998; Richards, 2005; Yin, 1994). Explanation building consists of an iterative process of inquiry and review in order to develop an understanding of underlying links (Creswell, 1998; Yin, 1994). Data was entered into a qualitative software management program (NVivo7™) and a first round of free coding was undertaken, seeking emergent and axial themes (Summers, 2005). Given my postcolonial conceptual framework, I was seeking themes of power, control, trust, and ownership as well as environment and health risk perspectives. After completing a round of free coding I critically examined the nodes created to determine if there were linkages between nodes as well as outliers. At this stage I began to explore the data in terms of major categories and sub-categories (trees). I experimentally grouped nodes together and began to create models of the data in an effort to make sense of the patterns that were beginning to emerge. Through an iterative process of comparing and contrasting I identified several emergent themes, which were then developed into consistent categories as concepts became more concrete (Miles & Huberman, 1994).

I returned to the data as well as the research goals to determine the areas of concentration for this and subsequent papers. I then began additional rounds of analysis, combing and coding the data for evidence of participant perspectives on the Photovoice process. Once the data had been subjected to this further scrutiny and from the nodes identified at this level, five key themes were refined around Photovoice. Having identified the key themes, I returned to the data again, seeking participants' statements that best illustrated these findings.

1.2.3.4 Phase 4

The fourth phase of analysis involved participation from the Huu-ay-aht leadership. Before the results of this study were subjected to external peer review, they were reviewed by the Advisory Committee and Huu-ay-aht Council for a period of no less than 30 days. The direction given to the Council and Advisory Committee indicated that if no concerns were expressed within that time period, I would proceed in confidence that the findings were supported by the community. This communication was expressed in writing and re-stated again before the close of the 30-day period. While I completed in the third and fourth levels of analysis, I engaged with my PhD supervisor on a regular basis. As she was well-removed from the data, I used her as a sounding board to help identify gaps in the analysis. While there was significant involvement in the data analysis from the community, particularly in the first, second, and fourth stages and from my supervisor, particularly in the third stage, the final interpretations articulated here are my own and I take responsibility for any errors, omissions, or misinterpretations.

The long-term immersion in the community provided multiple opportunities to communicate with members of the Huu-ay-aht Council, the Advisory Committee, and community members. This immersion contributed towards maintaining accessibility and transparency about the project. While pseudonyms have been assigned to all participants, Advisory Committee members, and community researchers, the First Nation itself has given permission to be identified as the research partner.

1.3 Operational Definitions

This dissertation brings together a number of key concepts that are important in the context of Indigenous and geographical research. Therefore, brief conceptual definitions of power, resilience, and place are elucidated here.

1.3.1 Power

Power is a term used frequently in our everyday lives and we generally understand what is meant by it (Allen, 2005). Yet the concept has generated widespread debate amongst philosophers and social and political theorists (Lukes, 2005). Power can be simply defined as the ability to act or affect something, to have control or authority over others, or the capacity to influence other peoples' behaviour (Soanes, 2005). Johnston defines power as "the ability to achieve certain ends" (2000, p. 629). Perhaps one of the most cited definitions of power is provided by Max Weber (Marshall, 1994). Weber (1978) suggests that power is the likelihood of an individual or group carrying out their decisions and desires despite opposition from others. Foucault is also widely recognized for providing a complex and nuanced understanding of power (Sheridan, 1990). Foucault (1978) understands power as a set of complex force relations that can maintain or contest one another. The upshot is that power is a highly contested term. This is due in part to the many definitions and levels of complexity applied to it (Allen, 2005). How we operationalize the definition of power is largely dependent on our theoretical positioning (Lukes, 2005). As noted, the approach taken in this research has been framed from a postcolonial/critical theoretical position. Thus, the concept of power plays a central role at multiple scales. In this study, power is operationalized as the capacity to make independent decisions and act on those decisions.

Lukes (2005) notes that although there are multiple views of power, they tend to represent variations of the underlying concept that someone (A) exercises power over another (B) in a manner that is contrary to the other's (B's) interests. Similarly, Foucault's highly influential critique argues that "if we speak of the structures or the mechanisms of power, it is only insofar as we suppose that certain persons exercise power over others" (1983, p. 217). Essentially, power is often used synonymously with influence and used to characterize relationships from the inter-personal to the inter-state (Johnston, 2000). Throughout this program of research I have constantly questioned and attended to my use of power and the imbalance of power between and among those involved.

Foucault goes on to promote the idea that power does not stem from a central place, instead it is an unstable moving conduit of force relations (Giles, 2005). As a result, "[p]ower is everywhere...because it comes from everywhere" (Foucault, 1978, p. 92). Power is typically problematized in the context of dominant and subordinate social relations (Marshall, 194). Thinking about how these relationships can be transformed through resistance at multiple scales from the individual to the state also contributes to our understanding of how power is operationalized (Allen, 2005). That power is everywhere and from everywhere relates to my approach in this study concerning the need to consider power and relationships in multiple places at multiple scales. Critical geographers have extended Foucault's approach to power by considering relationships not only between individuals or groups but also between individuals or groups and nature (Johnston, 2000). This extended view is appropriately applied in this study given my investigation of the Huu-ay-aht meaning of and relationship to non-human species.

One of Foucault's many contributions concerning power involves a discussion of the relationship between power and knowledge (Gutting, 2005). According to Foucault (1980), power cannot be exercised without knowledge and knowledge engenders power. The two are thus joined together through discourse (Foucault, 1978). Discourse, which transmits and produces power, refers to all forms of communication (Giles, 2005) and silence can also be a form of power (Foucault, 1978). Recognizing the power/knowledge relationship is essential in terms of Indigenous research in light of the colonial relationship between Indigenous and non-Indigenous peoples. Thus, power as a strategy (Driver, 1985) is an important consideration in this study.

At present, there is general agreement with Foucault's (1978) ideas concerning power and resistance; it is not possible for power to exist outside of power relations (Allen, 2005; Giles, 2005; Lukes, 2005). The tension of power relationships in the context of colonialism is a central theme of this dissertation. The subsequent chapters explore issues of power in Indigenous places in the context of ongoing colonial policies and practices in Canada. In Chapter 2 the focus on power is at the micro-scale concerning my relationship with the First Nation. Chapter 3 examines power at the macro-scale by drawing attention to the interaction of competing worldviews. Chapter 4 focuses on power at the meso-scale by exploring Huu-ay-aht perceptions of how their worldview frames 'resources' in contrast to the mainstream (Western) perception.

1.3.2 Resilience

Resilience has also been defined in many ways (Zurlini, Zaccarelli, & Petrosillo, 2006) due in part to the multiple meanings applied to the term (Carpenter, Walker, Anderies, & Abel, 2001). Ecologists were the first to initiate a discussion and definition of resilience (Carpenter, et al., 2001). Hollings' (1973) definition has been used as a point of departure in ecological discourse on resiliency. Hollings (1973) defines resilience as a persistent set of relationships that is able to absorb change. This definition suggests that a population can fluctuate a great deal yet still survive (Hollings, 1993). Others have since contributed to the development of a more nuanced meaning of the term. For example, Carpenter, Walker, Anderies, and Abel define resilience as "the magnitude of disturbance that can be tolerated before a socioecological system moves to a different region of state space controlled by a different set of processes" (2001, p. 765). In more recent ecosystems literature, resilience has been defined as the capacity to accommodate disruptions and restructure while experiencing change (Berkes and Turner, 2006).

Since Hollings' use of resilience in ecology, the definition has expanded to include human populations. For example, resilience has been applied to human communities regarding their ability to recover from extreme events (Tobin, 1999) or the capacity to endure hardship and maintain a sense of health and well-being (Carlton, Goebert, Miyamoto, Andrade, Hishinuma, Makini, et al., 2006). Related terms used to conceptualize resilience have also entered our discourse. For example, Blaikie, Cannon, Davis, and Wisner (1994) use the term 'coping' to talk about human vulnerability to natural hazards. They define coping as the way in which people act in unusual or adverse situations with the resources they have available to them (Blaikie, et al., 1994). In any case, there is a consensus view emerging (Jaffee, Caspi, Moffitt, Polo-Tomás, Taylor, 2007). In general, most definitions suggest resilience is the ability to withstand or recover from difficult conditions (LaFromboise, Hoyr, Oliver, & Whitbeck, 2006). Further, those who face these challenges also become *more* capable despite the adverse experience (LaFromboise, et al., 2006). The concept of resilience emerged during the data analysis for this project. Therefore, in this dissertation I have operationally defined resilience as the ability to recover from and become more capable in the face of adverse circumstances and conditions.

At present there is limited research that concentrates specifically on the idea of resilience in Indigenous communities (LaFromboise et al., 2006). Yet Indigenous peoples in Canada have certainly experienced difficult conditions associated with colonial policies and practices (Battiste & Youngblood, 2000). The Canadian government intentionally attempted to enforce assimilation and to dismantle Indigenous social, cultural, political, economic institutions (Battiste & Youngblood, 2000). Despite these formidable individual, family, and community-wide challenges, many Indigenous peoples and communities have or are beginning to recover (LaFromboise et al., 2006). Indigenous peoples in Canada are 'gathering strength' (Canada, Royal Commission on Aboriginal Peoples, 1996). They are, at a community level, demonstrating the means to re-establish their power despite their colonial encounter.

There are those who are working towards developing a conceptual framework regarding what resilience might look like in this unique context (e.g. Cross, 1998; Goodluck & Willeto, 2004; Heavy Runner & Marshall, 2003; and LaFromboise, Oiver, & Hoyt, in press). These authors suggest that the importance placed on family, community, and cultural values are critical elements of individual and community resilience (LaFromboise, 2006). With these elements in mind, this dissertation considers the ways in which an Indigenous worldview is/can be resilient at the community level.

1.5.3 Place

The term 'place' is a key concept in geography. In geography, a basic definition of place is 'a portion of geographic space' (Duncan, 2000, p. 582). However, critical geographers look at place and see it as having two fundamental meanings in geography (Cresswell, 1996). Place can be an object and it can be a way of looking (Cresswell, 2004). Studying place from these different theoretical perspectives compels us to look at different aspects of the world (Cresswell, 2004). Place is not only something that we observe, it is part of the way we see and interact (Cresswell, 2004). Thus place is more than just a portion of geographic space. Places tend to be bounded sites of social relations (Duncan, 2000). This has implications in relation to the operational definition of power previously outlined, particularly in terms of resistance. The meaning of place in this dissertation builds on the contributions of Cresswell (1996) and others (e.g. Jackson & Penrose, 1993; Pile & Keith, 1997; and Sibley, 1995) concerning place as spaces of physical and social resistance. Place is also conceptualized here as a permeable entity; place - the physical or the social version - is infused with fluidity and hybridity (Whatmore, 2002). The bottom line for critical geographers and the line taken here is that place matters (Massey & Allen, 1984), particularly in terms of power and resiliency.

Pred (1984) has suggested that place produces and is produced by social relations. Cresswell's (1996; 2004) illumination of this relationship in the context of place and power is particularly useful. Parallel to Foucault's contribution concerning knowledge and power, Cresswell finds that power and place are similarly inseparable. To project meaning and experience onto a particular place always means that one is asserting their views over those of others (Cresswell, 1996; 2004). Cresswell (1996) identifies two processes at work regarding power and place. First, there are attempts to create and maintain normative spaces (where everything is 'in place'). Second, place is used as a form of resistance (intentionally or otherwise) to question those normative spaces. As a result, place is often the source of conflict, infused with politics and emotion (Massey, 2004). This is particularly the case when a place has different meaning for people across cultures and social spaces (Masuda & Garvin, 2006).

The conceptualization of contested places can be appropriately applied to Indigenous places (physical and social locations) given the ongoing colonial policies and practices in Canada. In fact for some, place is a fundamental aspect of political geography (Agnew, 1987; Johnston, 1991). Colonization through the ages has been the struggle to claim/own space/place. This struggle continues across the Canadian landscape particularly with respect to First Nations peoples and the Western settler population. The conflicts arising are particularly complicated given that for many Indigenous populations the concept of land ownership is not a part of their worldviews (Oakes, Riewe, Kinew, & Maloney, 1998). This dissertation examines the importance of physical and social place in relation to the power and resiliency of an Indigenous worldview.

1.4 Structure of the Dissertation

Chapters 2, 3, and 4 are presented in a paper format, each with its own bibliography. Versions of these three chapters have been submitted for publication to academic journals and are currently under review[14]. Chapter 2 reports on this study's evaluation of 'Photovoice' as a CBPR method for Indigenous research. Photovoice is a participant-employed photographic and dialogical exercise to assist community members in recording and reflecting on community issues. This chapter critically examines how Photovoice has been used in previous studies and how it required particular modifications for this case study in order to fully address issues of power, trust, and ownership, central to research in partnership with Indigenous peoples.

Chapter 3 examines how the Huu-ay-aht worldview, Hishuk Tsawak (everything is connected), shapes their reading, understanding, and imagining of the forest landscape in their Hahoothlee. Hishuk Tsawak does not exist in a vacuum and dominant, competing worldviews from, for example, government and industry continue to test its resilience. The study found that Huu-ay-aht First Nation's physical and social locations are influential in determining its worldview's strength and continuity. While the traditional (Western) economic worldview for valuing forests in BC remains the dominant approach, contributions from feminist, environmental, and other scholars have begun to explore alternative conceptualizations (Reed, 2007). Indigenous worldviews, such as Hishuk Tsawak, have the potential to contribute, contest, and conceive of a new way of seeing forestry in the province.

A major focus of this research is on the Huu-ay-ahts' traditional and contemporary use of cedar and salmon. Chapter 4 explores the meaning of resources in order to make sense of how Huu-ay-aht First Nation has maintained its resources for thousands of years while the Western settler population has depleted those same resources in less than 200 years (Cutter & Renwick, 1999; Trosper, 2003). This paper argues that the conventional (Western) definition of what constitutes a natural resource is limited. By drawing on Huu-ay-aht perspectives concerning the importance and meaning of cedar and salmon the traditional definition of a resource in academic discourse is expanded.

Chapter 5 is a general discussion that relates the separate studies to each other, presents study limiations, suggests directions for future research, and provides final concluding comments.

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[14] The Photovoice paper (Chapter 2) has been peer-reviewed and is in revisions with *Social Sciences & Medicine*. The Hishuk Tsawak paper (Chapter 3) has been submitted for review to *Society & Natural Resources*. The Cedar and Salmon paper (Chapter 4) is in preparation for submission to *the Canadian Geographer*.

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Chapter 2.

MODIFYING PHOTOVOICE FOR COMMUNITY-BASED PARTICIPATORY INDIGENOUS RESEARCH[1]

2.1 Introduction

In decades of research ***on*** Indigenous peoples, scientists from the academic world 'parachuted' into First Nations, collected data (frequently without informed consent) and left, often neglecting to report research findings back to communities (Smith, 1999; Wohlforth, 2004; Korsmo & Graham, 2002). As a result, scepticism and resentment of academic researchers exists in many Indigenous communities. Further, there is expressed frustration with being 'researched to death' or research fatigue (Atkinson, Graham, Pettit, & Lewis, 2002). Not surprisingly, recent Indigenous scholars have characterized research not as a pure intellectual process, but one embedded with suspicion and anger (Battiste & Youngblood, 2000; Smith, 1999). In a genuine attempt to depart from and address ethical concerns stemming from traditional academic research, community-based participatory research (CBPR) has become widely adopted in research undertaken ***with*** Indigenous peoples in Canada (Association of Canadian Universities for Northern Studies, 1998; Canadian Institutes of Health Research, 2007; National Aboriginal Health Organization, 2005). CBPR is both a philosophical and methodological approach that attempts to equalize power by including research participants as equal partners in problem definition, methodological development, data collection and analysis, and the communication of findings (Fisher & Ball, 2003; World Health Organization, 2006). The work reported here evaluates the use of one CBPR method, Photovoice, with a First Nation on the West Coast of Canada.

2.2 Background

2.2.1 Power, Trust, and Ownership in the Indigenous context

The Indigenous population in Canada, like other marginalized/vulnerable groups (e.g. people with disabilities; children; seniors; recent immigrants) experience social, political, economic, and environmental injustice and inequality; they also tend to be segregated, exploited, or persecuted by the dominant society (Bridge, 2004; Brulle & Pellow, 2006; Minkler, 2004; Satterfield, Mertz, & Slovic, 2004). However, the Indigenous experience is distinct from these other groups for one very complex reason: colonization. To fully appreciate the scepticism and anger associated with academic research involving Indigenous populations (Pualani Louis, 2007) requires an understanding of the historico-political process of colonialism that is inherently embedded in Indigenous contexts (Smith, 1999).

Colonialism is the occupation and control of other peoples' lands and resources based on a set of ethnocentric beliefs used to legitimate this exertion of power (Ashcroft, Griffiths,

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[1] A version of this chapter has been submitted for publication to *Social Science & Medicine*.

& Tiffin, 2000). As early as the 15th century, European colonial systems, along with European-introduced diseases including smallpox, tuberculosis, and influenza, quickly overwhelmed Indigenous communities in Canada. The process of colonization systematically attacked Indigenous social, economic, political, cultural, educational, and health institutions (e.g. residential schools, out-of-culture adoptions, removal and destruction of sacred objects and sites, introduction of alcohol) (Battiste & Youngblood, 2000). The consequences of colonialism continue to exist today where its after-effects have affected generations of Indigenous peoples[2] (Ashcroft, et al., 2000). The historical imbalance of power, deep-seated mistrust, racism, and lack of control between Indigenous and non-Indigenous peoples in Canada has also permeated the research process, fostering the need to identify effective and culturally-appropriate research tools (Minkler, 2004; Smith, 1999).

2.2.2 Community-Based Participatory Research (CBPR)

CBPR is a broad concept known by many names (e.g. *action research, participatory research, participatory action research*, *collaborative inquiry, participatory rapid appraisal*, and *appreciative inquiry*) (Kauper-Brown & Seifer, 2006). Scholars often use these terms interchangeably as they share underlying goals (Minkler & Wallerstein, 2003). The roots of CBPR lie in the social and political movements of the 20th century. Kurt Lewin (1946) first introduced the idea in the 1940s as a way of confronting issues of social justice and challenging researcher 'objectivity' (Fals-Borda & Rahman, 1991). Paulo Freire (1970) built on Lewin's ideas in the 1970s with the concept of research and education for a critical consciousness that emphasized community-based identification of problems *and* solutions (Tandon, 2002; Kauper-Brown & Seifer, 2006).

CBPR differs from other approaches to research in that it equitably involves community partners in research, draws on their knowledge and experience, shares decision-making responsibilities, and builds community capacity (Minkler & Wallerstein, 2003; World Health Organization, 2006). CBPR employs a broad spectrum of techniques that typically involve some form of reflection, dialogue, and action (Minkler & Wallerstein, 2003). The idea of creating a social impact in community research may not resonate with traditional scientific models of the researcher as an objective, impartial observer who neither participates nor influences those they study (Delemos, 2006). However, creating a positive social impact at the individual and community level defines CBPR (Wallerstein & Duran, 2006).

CBPR also aims to develop culturally relevant theories, which are typically determined by working closely with research participants to identify the most effective ways to answer particular research questions (e.g. theories that incorporate social context, history values, interconnections of land and people, spirituality, etc) (Carlson, Engebretson, & Chamberlain, 2006; Minkler & Wallerstein, 2003). While the goals of traditional research are to focus on relationships between and/or differences in phenomena or to focus on social structures and/or individual experiences (Wallerstein, 1999), an overarching set of goals prevails in CBPR: to equalize power differences, build trust, and create a sense of ownership in an effort to bring about social justice and change (Reason & Bradbury, 2001; Brugge & Hynes, 2005). At the same time CBPR is recognized as an inherently Western-based research process often used with non-Western populations.

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[2] Today's situation is referred to as neo-colonialism, which suggests that although a colonized people may have technically achieved freedom, the former colonial administration still exerts power and influence over the society's consciousness and institutional structures (Ashcroft et al., 2000).

Balancing power, fostering trust, and creating a sense of ownership require brief conceptual definitions in order to link these concepts with the empirical findings of this study. For our purposes balancing research power refers to the researcher and the researched sharing control of the research process and outcomes. The issue of power is seldom adequately acknowledged in academic literature despite calls for participatory researchers to engage in self-analysis of these tensions throughout the research process (Wallerstein & Duran, 2006). Researchers must also recognize that internal community politics can reinforce and obscure power relationships (Malone, Yerger, McGruder, & Froelicher, 2006). For example, gender, age, and social position affect how individuals act or do not act in the research process (Malone et al., 2006) and power differentials may affect participants' responses during interviews (Baxter & Eyles, 1997). Fostering trust is an overlapping and related process that begins with the sharing of power, though it is also a difficult factor to measure empirically (Delemos, 2006). One can work towards establishing trust through openness, honesty, and transparency in the research process (Minkler, 2004; World Health Organization, 2006). Furthermore, researchers can become involved in the community's activities, listen to and address community partners' needs, and give back to the community. All of these are additional ways to build trust and in doing so, a sense of community ownership over the research - and the knowledge generated from it - can be established (Kauper-Brown & Seifer, 2006; National Aboriginal Health Organization, 2005)

2.2.3 Participant-employed Photography

CBPR practitioners are increasingly recognizing that visual data is an effective method for shared interpretation in participatory research (Davidson, 2002) and participant-employed photography (PEP), though traditionally under-utilized, is one such technique (Hurworth, 2003). Photography in academic research is not a novel approach - it has been an accepted tool in anthropological fieldwork practice since the 1920s (Wright, 2004; Gold, 2004). Physical geographers use aerial mapping and repeat photography (Baker, Honaker, & Weisberg, 1995), human geographers employ archival photographic analyses (Schwartz & Ryan, 2003), and photography is commonly used to document medical conditions in health studies (Riley & Manias, 2006). Nevertheless, references to photography remain sparse (Riley & Manias, 2004; Hurworth, 2003) and underutilized in Indigenous research[3].

Collier (1967) was the first to describe the use of photos in research interviews (Loeffler, 2004). Since then several methods have been identified regarding how photography can be used in qualitative interviewing to make sense of daily life (Hurworth, 2003; Liben & Szechter, 2002). Photographs taken by researchers can be used to elicit participant narratives (Clark-Ibanez, 2004; Taylor, 2002). Participants can take photographs at the researcher's request and those photographs become the subject of analysis and interpretation (MacKay & Couldwell, 2004). Photographs can be taken by participants and used to elicit the participant-photographer's own narrative (Hurworth, 2003). This latter process, typically referred to as PEP, allows the participant, rather than the researcher, to determine the meaning of the photograph, important to the power-sharing aspect of CBPR (Carlsson, 2001). By using PEP a richer understanding of a particular issue under study is gained, more so than could be collected using standard interviewing techniques alone (Gold, 2004). It compels participants to reflect on and discern their own perspectives (Carlsson, 2001). The participant's explanation of photographs can also convey significant socio-cultural perspectives (Riley & Manias, 2003). Each of these photographic methods serves an important but different purpose in research, impacting engagement with and reflection on the research process for both participants and researchers.

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[3] There are a number of such projects currently underway, particularly in the Canadian North dealing with Inuit populations.

2.2.4 Photovoice

Caroline Wang introduced the term 'Photovoice' (Hurworth, 2003) for a process that has previously been referred to as *auto-driving* (Heisley & Levy, 1991), *reflexive photography* (Harrington & Lindy, 1998; Douglas, 1998), and *photo novella* (Wang & Burris, 1994; LeClerc, Wells, Craig, & Wilson, 2002; Wang, Burris, & Ping, 1996). As a form of PEP, Photovoice uses participants' photographs as a catalyst to engage participants (those typically with less power) and policy-makers (those typically with more power) in group dialogue for social change (Wang, 2005). In keeping with the aims of traditional CBPR, Wang (2005) identifies three goals for Photovoice: (1) to assist individuals with recording and reflecting on select community issues; (2) to encourage group dialogue on these issues; and (3) to influence policymakers.

Wang (2005) suggests that three major theoretical underpinnings support Photovoice. The first is *documentary photography*, which is based on the premise that providing a camera to people who might not normally have access to one will empower them to record and instigate change in their communities (Rose, 1997). The second is Paulo Freire's (1970) *theory of critical consciousness*, which seeks to engage individuals in the questioning of their historical-social situation. The third foundation upon which Photovoice is based is *feminist theory*, which is meant to empower vulnerable populations, value knowledge grounded in experience, take into account masculinist power and representation, and recognize local expertise and insight that cannot be fully realized from the outside (Hesse-Biber & Yaiser, 2004). Adherents to these three theoretical fundamentals tend to use CBPR in their efforts to engage in research for social justice and change (Kirby & McKenna, 1989; Moss, 2006).

Photovoice has been primarily used in a wide range of health research to empower marginalized recipients of health systems in an effort to create positive change and the data suggest Photovoice is an effective way of communicating with people in positions of power. For example, Photovoice has been used with rural African American breast cancer survivors (Lopez, Eng, Randall-David, & Robinson, 2005), with Latino-American adolescent immigrants (Streng et al., 2004), with patients in hospital wards (Radley & Taylor, 2003), and with other economically and ethnically diverse populations (Wang &

Pies, 2004) to create positive health reforms. Photovoice has also been used in the operating room to explore governance and control in the context of power and resistance between nursing staff and surgeons (Riley & Manias, 2006) as well as in nursing education as a means of understanding cultural aspects of health (Killion, 2001).

People living with HIV/AIDS used Photovoice to explore influences on their own employment-seeking behaviours and then developed action plans to address these behaviours (Hergenrather, Rhodes, & Clark, 2006). Residents of 'distressed' urban neighbourhoods used Photovoice to document meaningful physical attributes of their surroundings (Nowell, Berkowitz, Deacon & Foster-Fishman, 2006). Students, teachers, and parents have employed Photovoice to create change in educational policy and teaching practices (Kroeger et al., 2004; McAllister, Wilson, Green & Baldwin, 2005; Mueller, 2006; Strack, Magill & McDonagh, 2004; Wang, Anderson, & Stern, 2004). Women's groups have undertaken Photovoice projects to document the effects of civil war (Lykes, Terre Blanche, & Hamber, 2003), to create a sense of community identity (McIntyre, 2003), and to depict social health issues in rural communities to government bureaucrats (Wang et al., 1996).

Vulnerable populations ranging from homeless people (Radley, Hodgetts, & Cullen, 2005; Dixon & Hadjialexiou, 2005), to seniors facing hospital discharge without proper aftercare in place (LeClerc et al., 2002), to immigrant women seeking improvements to prenatal care (Bender, Harbour, Thorp, & Morris, 2001), to mothers with learning disabilities coping in society (Booth & Booth, 2003), are all using Photovoice to create change for themselves and their communities. However, literature documenting its use with Indigenous communities is only emerging (e.g. Moffitt & Vollman, 2004). Given Photovoice's success with other CBPR projects involving marginalized populations, it was selected for this project in an effort to evaluate its effectiveness with a First Nation regarding issues that were important to them, thereby contributing to this growing body of methodological literature.

2.2.5 Ethics

All research methods have affiliated ethical considerations that must be weighed and measured carefully; the ethical use of Photovoice is no different[4] (Wang & Redwood-Jones, 2001). The act of taking pictures in any community *is* a political act and, as with other methods, the resulting data both disclose that which *is* photographed and hides that which is *not* (Wang & Burris, 1997). As such photography can be an intrusive activity and may lead to unintended consequences (Riley & Manias, 2003). Anonymity and confidentiality (especially photographs of people) can be dealt with at various stages throughout the research process including the following: (1) training sessions with participants on the ethics and mechanics of photography; (2) collection of signed informed consent from any individuals that participants wish to photograph; (3) confirmation of consent through the member-checking and transcription verification process; (4) receipt of final photograph release consent forms from participants; and (5) digital manipulation of photographs to avoid potential harm to any individuals or groups.

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[4] For a detailed review of Photovoice ethics see Wang and Redwood-Jones (2001).

2.3 Methodology

2.3.1 Methods

In April 2005 Huu-ay-aht First Nation hosted a Symposium to discuss their past, present, and future needs for Cedar, a sacred resource, during which I participated as a volunteer photographer. After informal dialogue with several Huu-ay-aht elected and hereditary leaders, a CBPR partnership was formed to conduct a study on environment and health risk perspectives concerning the removal of cedar and disturbance of salmon habitat (both significant cultural resources) in their traditional territory. This project was developed from the community's self-identified need to protect these resources. The Huu-ay-aht Council immediately appointed an Advisory Committee (one elected Councillor, one Hereditary Chief, and one experienced community researcher) to collaborate on the research design, pilot test the data collection process, receive oral and written reports, and provide guidance to the research team throughout the study. The CBPR process at those meetings, which took place primarily at my request, involved discussions of colonialism and power and thus forged the way for agreement, trust, and community control. While I presented an outline for the research design, the Advisory Committee's suggestions for modifications and differences of opinion were resolved through dialogue and respectfully adapted. Two community researchers were also trained and employed on the project and were actively engaged in collecting and analyzing the data. While pseudonyms have been assigned to all participants, Advisory Committee members, and community researchers, the First Nation has given permission to be identified as the research partner.

Participant recruitment and data collection began in October, 2005 and data were collected until April, 2006 (see Appendices 4-11). Participants (n=45, includes Advisory Committee and community researchers), ranging in age from 19-75, were recruited using stratified purposeful and opportunistic (snowball) sampling (Seidman, 2005; Creswell, 1998). In order to bound the study, we limited participation to Huu-ay-aht members (male=25, female=15) living within the boundaries of Huu-ay-aht First Nation (approximately 150 members) as well as select Huu-ay-aht leaders and non-Huu-ay-aht individuals as identified/recruited by the Advisory Committee (n=5). Five participants withdrew from the study, all citing as their reason limited time to commit to the project. Each participant was given a short training session regarding the ethical and technical use of the provided 27-exposure disposable camera. Participants were asked to take photographs of places and activities that represented environment and health risks and non-risks. Participants returned completed cameras, the research team developed the film, and individual semi-structured interviews were then held utilizing the photographs to guide the discussion.

Interviews consisted of a preamble and general line of questioning, after which participants were shown their photographs one at a time and asked where each picture was taken, why it was taken, and what it meant to them (see Appendix 12). At the end of the interview, participants were asked to select two photographs among their collection: one that best represented environment or health risks and one that best represented well-being or safety. This step was taken for two reasons. First, it was an opportunity for participants to further reflect on and prioritize their environment and health risk perspectives. Second, it aided the research team in data analysis and for communicating back participants' priorities for action. At the conclusion of each interview, participants were also asked to comment on the Photovoice process itself (e.g. did they like it, why or why not, would they do it again). A copy of the photographs after the interview and an unexpected honorarium at the conclusion of the study were provided as a way of thanking each participant for their involvement.

As participants' photographs were developed and interviews were conducted, the research team and Advisory Committee decided to provide updates to the community via a newsletter and monthly potluck dinners (n=5), each featuring a poster consisting of a collage of participants' 'priority' photographs and associated narratives. Posters were placed at four sites in the community that experienced high traffic volume and sites were visited regularly to gauge community interest. Copies were also provided to individuals on request. Sustained community contact throughout the study provided opportunities to not only submit oral and written progress reports to the Huu-ay-aht Council and Advisory Committee but also update the general membership thus maintaining accessibility and transparency about the project. The Huu-ay-aht Council and Advisory Committee also reviewed the research findings prior to publication.

2.3.2 Analysis

All interviews were tape-recorded and transcribed verbatim. Transcripts were returned to participants to confirm transcription accuracy and for comments and/or clarification about the information provided in the interview (see Appendix 13) (Baxter & Eyles, 1997). Participants were also given an opportunity to comment on the preliminary analysis. The data reported here emerged mainly from interview text regarding the Photovoice process but also from participant observation of the process, reflexive journaling, member-checking, and peer debriefing which supplemented and expanded on the analysis. Inductive content analysis (Denzin & Lincoln, 2005) was used to evaluate participation in the Photovoice process. This consisted of a preliminary round of free coding by hand, followed by a detailed round of coding using a qualitative software package (NVivo7™) to identify emergent themes, and then consistent categories were developed as concepts became more concrete (Miles & Huberman, 1994). Through an iterative process of comparing and contrasting (Miles & Huberman, 1994), five key themes were refined regarding the use of Photovoice. To ensure credibility, transferability, dependability, and confirmability (Baxter & Eyles, 1997) in this study, the following measures were undertaken: multiple methods of data collection; pilot-testing the interviews; member-checking interview transcripts to confirm accuracy; prolonged immersion in the fieldwork to establish rapport and confirm interpretations; and an Advisory Committee to corroborate the results (Baxter & Eyles, 1997).

2.4 Results

Participants indicated satisfaction with the Photovoice method. This satisfaction stemmed from the method's success at balancing power, creating a sense of ownership in the research, fostering trust, building capacity, and implementing a culturally-appropriate research project in the community.

2.4.1 Balancing Power

In traditional research the researcher determines the research design. As a CBPR technique Photovoice balanced power on two scales: individually, permitting participants to determine the interview subjects and community-wide, through the Advisory Committee's decision-making power on behalf of the community. Following a pilot-test of the Photovoice interview, direction from the Advisory Committee was explicit.

> *I think that will be your number one question: Where was this picture taken? And why did you take it?" (Rose, Advisory Committee member)*

Entrusting cameras to participants allowed them to determine the subjects of their photographs rather than the researcher making such decisions. This process meant the research team gave up their power and enabled participants to gain control and set the agenda for the ensuing interview.

> *I think it worked with pictures because... if you do have [interview guide] questions it sort of limits it... I think this is good, because it's more of the voluntary sharing, and a picture - you choose what you take - it's up to that person to have to like think of what they want, find it for pictures. (Barry, Advisory Committee member)*
>
> *The volunteers that have been taking pictures for the project are very excited and the pictures have allowed them to open up and discuss their true feelings about our village and it's very exciting to see this happening. (Hugh, community researcher)*

2.4.2 Sense of Ownership

As a CBPR project created in partnership with Huu-ay-aht First Nation, ownership at the leadership level was explicit at the outset. Having an Advisory Committee was a way of initiating a sense of community-wide ownership over the research. The extent of participation, nearly 50 percent of the eligible population, suggests that such ownership was taking place at a community level.

> *You have done so well in getting the whole community to participate... I am amazed and I think that the rest of the Council is too, because I hear them talking about the project more... the whole project, it is so amazing, being able to see something out of it... (Evelyn, Advisory Committee member)*

In fact, several participants completed the Photovoice exercise and subsequently requested an additional camera to continue their involvement. They commented on the importance of the project and learning about each other's perspectives. This reflects the degree to which they owned the research.

> *I really appreciate this because... our young people are getting involved, which we need. And I really think this is going to do a lot of things as the years go by... our young people... taking pictures.*

> *They look at things different than we do and I really think this is so special. (Grace, participant)*

Participants commented how the photographs would serve as a community-owned archive in the future.

> *I like the idea of keeping these pictures to look back on the issues that I had and other people had and to see the changes that have taken place... so you can go back and say, 'what did I do to make a difference, how did I make a difference, did it work?' (Doug, community researcher)*
>
> *[We] are going to produce something that is going to be invaluable to our future generations... put it in our archives. Someone from 100 years from now might pull that out and go, 'Is that what it used to be like? ... [I] find real value in that. (John, participant)*

Participants took seriously the responsibility of representing community issues. Most of the participants needed more than the original one week given for the photography exercise. Allowing this extra time, in some cases more than a month, permitted increased reflection with the end product becoming a part of the community's collectively-owned knowledge.

> *The process that I went through was interesting because I spent, 6 weeks, or 2 months, thinking about it in my mind, going, 'what do I want to say' and 'how do I want to say it?' I thought the photos [were] a neat way to go about it... I thought this was going to be a good memory for me, this experience. So I said 'you know what, I want to put a little bit of effort into this.'... So I chose very carefully... It was an interesting proposition. There [were] a lot of things going on in my mind as I mulled my way through 'what do I want to say.' (John, participant)*

Attendance at the community potluck dinners increased throughout the project and the research posters presented at these dinners were an important way of not only generating informal community dialogue but also creating community ownership over the knowledge generated. Providing an opportunity for comment and discussion on the issues photographed served to verify individual perspectives at the community level and generate dialogue and action among community members regarding important environment and health issues.

> *This is an awesome opportunity... to participate in recording, documenting, listening, taking part in, and understanding other peoples' feelings. We can all make change if everybody understands how everybody else feels. (Doug, community researcher)*

2.4.3 Fostering Trust

The Photovoice process fostered a sense of trust by empowering participants with self-determination regarding the subjects of their photographs, which demonstrated the researchers' confidence in the participants' knowledge and abilities to prioritize their issues. It also created opportunities for me to engage in extensive community interaction and relationship-building by visiting people in their homes to inquire about camera progress and to engage in cultural activities, local recreation, and volunteering.

> *You are involved with us. You go to basketball and join with the young adult people, which is great. (Grace, participant)*

Participants were invited to take photographs anywhere within the boundaries of their traditional territory but many did not have access to a vehicle. After debriefing the pilot-test, an Advisory Committee member identified a resolution:

> *PI: What are your feelings on [transportation] right now? Are you worried about it?*
> *R: Yes, sort of, because if you weren't driving me around I probably wouldn't have taken any [of those] pictures [outside the community]... that's what I'm worried about.*
> *PI: Me too...do you have any ideas of how we might deal with that?*
> *R: Take them for a ride. (laughter)*
> *PI: (laughter) That's what I was thinking too to be honest.*
> *R: You know that might help. [A participant] might want to go for a ride or something, might show you a place I've never been.*
> *PI: So would it make sense that I do that? That I offer to go with [participants]? How? [Should] all three of us go?*
> *RI: Maybe all three of us go. Yes, if that's what [they] want to do. (Rose, Advisory Committee member)*

This provision created further opportunities for me to interact with and, in two cases, accompany participants. These daily interactions contributed towards building trust. The potlucks and posters were a way of making the research process accessible, transparent, and a part of the entire community while also providing opportunities to recruit additional community members as trust developed over time.

2.4.4 Building Capacity

An important goal of CBPR is to support training and skill development in the community. As a result of this study, two community members are now fully trained in the research process using Photovoice. Community members have continued to take pictures after the data collection phase concluded, which is further evidence that community members felt confident with their skills not to mention that both the process of taking pictures and the findings belonged to the community. For example Rose (Advisory Committee member) indicated that she has continued to document environment and health issues through photography (personal communication, September 20, 2006). Rose also noted that the community leadership had decided to collect photographic data on other subjects in the community (e.g. historic fishing boats, cedar baskets and mat weaving) and to create posters to disseminate their findings to the community (personal communication, October 24, 2006).

Evidence of capacity can range from hardly visible to vastly evident and from intangible to concrete. One example is worth noting here. At the third potluck dinner, the research team displayed their third poster. One of the photographs on the poster was of the village's fire hall defaced by graffiti. The photographer's concern was not about the graffiti but about the need for more activities for Huu-ay-aht youth. Later that evening five youth were spotted in the cold winter rain with rags in their hands. They had been 'caught' ***cleaning*** the graffiti from the fire hall. When asked why they were doing it, their response was 'we saw the poster'. Their actions were captured on film and appeared on the fourth research poster along with a caption indicating a sense of pride in the youths' actions. Community concerns became visible through the posters and were, in this case, catalysts for change. The posters fostered change, another form of capacity, in the community.

> *Being able to see the pictures, having them posted in all the offices... it makes change... [The number of participants] is more than what we get at a band meeting... Maybe we will have to set up our next band meeting like an interview process or something. Give everybody cameras. (Evelyn, Advisory Committee member)*
>
> *There is a slow learning to this, and you can see it... you can see the changes in some of our children... and some of our adults.... There [are] posters... to remind them, "okay, right, we've been there" just to make the reserve better... Because it has gotten better, very slow, but it has. I'm not kidding you... Oh, it is [linked to this project]. I know it is. Big time... Our young people are getting involved... A lot of good things happening. Important stuff too. You notice that adults are getting more involved... which is good. (Grace, participant)*

2.4.5 Photovoice: A Culturally Appropriate Method

Community members saw Photovoice as an appropriate and effective approach to explore their environment and health issues.

> *Mhm, for sure, mhm. Because [the photograph] is right there. You can't lie. (Paul, participant)*
>
> *It was a good way for us... to express our thoughts and feelings... A picture is worth a thousand words. (John, participant)*
>
> *I loved it. I'm not too much of a camera person, but you know once I got that camera, I couldn't stop. (Grace, participant)*

Several participants expressed similar ideas regarding their experience with the Photovoice project. This is particularly important given the frustration with academic research and research fatigue in many Indigenous communities.

> *By [using] photography with Aboriginal persons who are more comfortable with oral and visual [forms of communication], then*

> *this way you are drawing out the information, this isn't intimidating. We are over-grilled right now, 'not another interview'. I'm really glad that you did it this way because it is a way of drawing out information rather than interviewing or having to answer a bunch of questions. (Donald, participant)*

Participants also indicated that the pictures they took were meaningful beyond the scope of the project; they were affective records of their daily life.

> *I've enjoyed [taking pictures] 'cause that's the only way it refreshes your mind - the thoughts when you take those pictures - it does something to you too. It does. I'm not kidding you. It did to me. And each picture I took, I'll never forget it, never, because it meant so much to me. (Grace, participant)*

2.5 Discussion

The results of this work suggest Photovoice was an effective method for sharing power, fostering trust, developing a sense of ownership, creating community change and building capacity. Taken together, these findings are congruent with the intended goals of CBPR. The following discussion is organized around implementing Photovoice 'on the ground'. In the process of actually doing Photovoice, the research team found that it had to modify the proscribed process to maintain cultural continuity and address inherent limitations in the method.

2.5.1 Modifying Photovoice

In line with its philosophical underpinnings, CBPR researchers are typically flexible and reflexive in terms of the way data is collected in the field. Therefore, methods must be adaptable in response to a community's particular research needs and goals. Photovoice, as a CBPR method, should be no different. Interestingly, Caroline Wang's (2005) description of Photovoice is presented as a fixed method that involves a preliminary workshop for participants on the Photovoice technique and then a photography assignment followed by a group dialogue with policy-makers based on the photographs. A side-by-side comparison of Wang's stages of Photovoice and the stages used in the modified Huu-ay-aht project illustrate a key difference: the presence/absence of a feedback loop (see Appendix 14). Wang's 'CBPR' approach has a concluding evaluation stage. By comparison, the modified Huu-ay-aht project created a feedback loop, seeking input from the entire community at regular intervals throughout the project.

The Wang approach to Photovoice was initially planned for the Huu-ay-aht study. However, it quickly became apparent that the 'classic' Photovoice approach was similar to the academic trend of doing 'parachute' research in Indigenous communities. In previous Photovoice studies, data were collected in a few short weeks whereas the data collection for this study extended for six months. This prolonged immersion in the fieldwork served to build trust, establish rapport, develop a sense of ownership, and confirm interpretations. Interestingly, published Photovoice research has not involved significant discussion regarding the importance of building trust despite it being an important component of CBPR. There are two possible explanations. First, trust may not have been as important as was the case here given the colonial legacy in Indigenous communities. Second, it may not have been possible to fully develop or explore the concept of trust without an iterative process similar to the one built into the cycling practice in the Huu-ay-aht study. As a result, trust may have remained largely unexplored in more traditional Photovoice studies. If Photovoice is to become a successful CBPR method with Indigenous partners, researchers should consider including the iterative process to balance power, create a sense of ownership, *and* build trust.

Other modifications relate to recruitment and the interview process. The Advisory Committee felt it was inappropriate to recruit Elders for the photographic exercise as many had limited mobility. Therefore, it was agreed that while Elders were certainly eligible to participate, they would not be actively recruited so as not to compel participation. This was a difficult decision as Elders' perspectives are highly valued in Indigenous communities. Elders are important sources of Indigenous Knowledge (IK), which is commonly defined as local, culturally-specific knowledge unique to a particular Indigenous population and the intellectual product of direct observation and experience passed from generation to generation through oral tradition (Battiste & Youngblood, 2000; Berkes, 1999; Simpson, 1999). Elders' perspectives concerning the project were sought informally through home visits and at community potluck dinners.

Rather than undergo one group dialogue process to select and contextualize the photographs, individual interviews were conducted soon after participants' photographs had been taken. This was a necessary modification as recruitment was ongoing during the six-month data collection period and cameras were returned throughout allowing participants time to reflect on and photograph issues. Had a group workshop been held at the end of the data collection period, long after many participants had taken their pictures, there was increased likelihood that participants would have forgotten where the pictures were taken, why they were taken, and what meaning had originally been attached to them. A further modification of the interview process involved participants' commentary on *all* of their photographs. Limiting participants' comments to only their 'best' photos (as Wang and others have done previously) would have skewed the results of the overall study, which sought out *the full range* of community perspectives on health and environment issues.

My intuitive prediction that Photovoice would be an effective and engaging tool for CBPR research with a First Nation proved accurate. The photography aspect of Photovoice 'captured' direct observations of, in this case, environment and health issues in the community. Photovoice extended the observational aspect of Indigenous Knowledge by coupling photographs with participants' stories, which is in line with oral traditions. Using photography in conjunction with the oral storytelling approach applied in the Photovoice exercise was a means of recording current perspectives and using current technology to ensure cultural continuity concerning resource use. Photovoice projects with First Nations can therefore be of use to their leadership as well as providing archival documents for future generations.

2.5.2 Limitations of Photovoice

Photography in research presents particular limitations; there are limits to what is observable (Rose, 1993). For example, access to that which was *not* photographed is denied and subsequently not discussed in the Photovoice interview, which is as important to consider as what was present in the collection of photographic representations (Gregory, 1994; Said, 1978)[5]. In this case, interviews were purposefully structured to explore participants' perspectives beyond just what was photographed through a general line of questioning at the start and through an opportunity to comment on 'other' issues at the conclusion.

In any study employing photography, participants may struggle with the challenge of how to photograph non-tangible items or issues. At the same time, photography presents opportunities for creativity by lending itself to a certain depth of critical reflection. In this study, for example, one participant wanted to address the social health issue of 'gossip' in the community. Her solution was to photograph the word spelled out on a Scrabble game board.

Photovoice projects, whether traditional or modified, involve a significant commitment of time and effort on the part of participants and researchers. Participants agree to much more than a survey, an interview, or a focus group typical of some data collection methods. In Photovoice, there is a camera and ethics training component, a potentially lengthy process of taking photographs, followed by an interview, and subsequent action for change. The research design must factor in the time involved in recruitment, camera retrieval, and interviewing. Participant retention, a common issue in traditional qualitative studies, is a limiting factor, possibly more so with Photovoice as participants may feel pressure to complete the photography exercise and interview, which may ultimately impact their decision to participate. Seasonality and weather are additional factors that can also influence and limit photographers' choices and research results.

Photovoice projects require certain materials and resources, the most obvious being access to cameras and film-developing. The quality of the photograph may be compromised (e.g. photographs may be out of focus or over-exposed); this can be resolved by using digital cameras. The purchase of cameras and potential replacement costs of lost cameras as well as photo development can impact a research budget. Misplaced cameras or inadvertent switching of participants' photographs can also lead to frustration for both participants and researchers. A way to resolve this latter issue is to take a picture of each participant at the outset using his/her camera to help identify film in case of confusion. Interviewing should take place immediately following a participant's return of the camera to facilitate memory retention, thus nearby access to developing services is necessary.

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[5] Considerable academic discourse has taken place regarding directionality of the (masculine) 'gaze' (Foucault, 1980; Gregory, 1994; Said, 1978) and representation in visual data analysis (Bondi, Avis, Bankey, Bingley, Davidson, Duffy et al., 2002; Rose, 1993)

2.6 Conclusions

The research approach in this study is a response to Indigenous peoples' criticism of academia regarding power, trust, and ownership in Indigenous research. The modified Photovoice process provided grounds for the research team to listen to and discuss community issues, to demonstrate a positive regard for Indigenous perspectives, and to value the participants' knowledge and expertise. By relinquishing power and decision-making control over the study and adopting a flexible and open approach to the research process worked toward building trust between myself, the community researchers and the First Nation. The outcome of such power-sharing and trust-building is a greater sense community ownership, which is a core component of CBPR.

A modified version of Photovoice was an effective and useful CBPR methodological tool for this study. I recommend that those who apply this method to their own CBPR research carefully document and report the details of their work so that others may reasonably evaluate 'rigour' in the analysis. Perhaps the most telling indicator regarding the utility of this approach has been the response from other First Nations. Recently, the research team was invited to make a presentation about the Photovoice project to a group of neighbouring First Nations. A number of the leaders present were eager to use Photovoice to address environment and health questions pertinent to their own communities. This indicates that the approach has the potential to be a useful tool for future university research alliances with First Nations.

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Chapter 3.

'HISHUK TSAWAK' (EVERYTHING IS CONNECTED): A HUU-AY-AHT WORLDVIEW FOR SEEING FORESTRY IN BRITISH COLUMBIA, CANADA[1]

3.1 Introduction

The official slogan for tourism in the province of British Columbia (BC) on the West Coast of Canada is 'Super, Natural British Columbia'. The reality for British Columbians (and visitors) is that the province is not simply a (super) natural landscape, rather it is a hotly contested cultural landscape (Braun, 2002; Howitt & Suchet-Pearson, 2003; Soper, 1995). While landscape may be read, understood, and imagined in pluralistic and contested terms, the power to *define* the landscape is typically held by a particular group of people (Abrams, Kelly, Shindler, & Wilton, 2005; Greider & Garkovich, 1994; Lee & Roth, 2006; McGuire & Sanyal, 2006). Government, industry, environmentalists, and First Nations, each representing a distinct worldview about the landscape, are among the key stakeholders in an ongoing debate and struggle over the power to define the BC forested landscape and how it is used (Braun, 2002). The work reported here explores one First Nation's worldview and problematizes it in the context of local forestry practices.

A worldview is a socially constructed set of human values that are the fundamental principles by which individuals live out and make sense of their lives (Berger & Luckmann, 1966). Worldviews frame our knowledge and all knowledge is situated such that it is a product of our social values and relationships (Haraway, 1991). Our worldviews embody what we 'know' regarding what exists, what is good, and what is possible (Therborn, 1980). Worldviews concerning nature are numerous and there is growing awareness of the need to understand these worldviews in order to make sense of environmental controversies (Dake, 1992; Demeritt, 2002; Soper, 1995; White, 2006). Environmental problems are complex, involving economic, socio-cultural, political, and ecological systems, all of which are imbued with the values attached to particular worldviews (Carolan, 2006). As such, there is a great deal of uncertainty and conflict about how best to solve these problems (Goldfarb, 2001; Mitchell, 2004) as is the case regarding forestry issues in BC (Braun, 2002).

Without question, the dominant worldview regarding forestry in BC is grounded in Western capitalism (Braun, 2002; Gamborg & Rune, 2004). BC forests have been perceived and managed as exploitable economic resources since Europeans first began falling logs over a century ago. However, there is a constant push-pull tension between this and other competing worldviews. As a result the traditional economic framework for valuing forests is highly debated (Gamborg & Rune, 2004). In response, feminist and environmental geographers, among others, have begun to critically examine the dominant worldview regarding current forestry practices in Canada (Reed, 2007a; Reed & Mitchell, 2003). Indigenous worldviews and knowledge, having been developed over thousands of years regarding both resource management in general and forestry specifically, have the potential to do the same (Booth, 2000).

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[1] A version of this chapter has been submitted for publication to *Society and Natural Resources*.

3.2 Background

3.2.1 Huu-ay-aht First Nation

The work reported here is part of the overall environment and health study undertaken in partnership with Huu-ay-aht First Nation. The Indigenous population on much of the west coast of what is now known as Vancouver Island in BC are 'Nuu-chah-nulth' (formerly 'Nootka'), meaning 'people all along the mountains' (Atleo, 2004). Huu-ay-aht First Nation, one of fourteen Nuu-chah-nulth First Nations, is located 250 kilometres northwest of Victoria, which is the provincial capital of BC (see Appendix 2: Map of Huu-ay-aht First Nation). Its traditional territory encompasses approximately 78,000 hectares of land. However, under the federal reserve system for Indigenous peoples in Canada (Harris, 2002; Kennedy, 1995), the government has allocated 816 hectares of land on 13 reserves for Huu-ay-aht First Nation (BC Ministry of Aboriginal Relations and Reconciliation, 2006).

Prior to European contact, Huu-ay-ahts numbered in the thousands (Huu-ay-aht First Nation, 2007c). By the mid-1800s their numbers were significantly reduced to less than 250 people, the result of contracting deadly European diseases including smallpox, tuberculosis, and influenza (Simms, 2004). At present there are approximately 600 members of Huu-ay-aht First Nation (BC Ministry of Aboriginal Relations and Reconciliation, 2006). Roughly 150 members live 'on reserve' in Ana'cla, the main Huu-ay-aht village, while the majority of Huu-ay-ahts living 'off-reserve' are located in nearby urban centres, particularly Port Alberni, Nanaimo, Victoria, and Vancouver.

Understanding the Huu-ay-aht system of governance and the stage this First Nation is at in terms of negotiating a Treaty with the Governments of Canada and British Columbia are important backdrops needed to contextualize the findings of this research as well as the subsequent discussion. The Huu-ay-aht have been governed by a hereditary chieftainship system for thousands of years (Huu-ay-aht First Nation, 2007c). In addition to governance of the Huu-ay-aht people, the hereditary Chief and sub-Chiefs of the Nation have stewardship responsibilities associated with their traditional territory (Huu-ay-aht First Nation, 2007c). Under the federally-legislated Indian Act of 1876 (Canada, 1996) the Huu-ay-aht leadership now consists of an elected Council. Nevertheless, the current hereditary Chief and sub-Chiefs continue to play prominent leadership roles in the community and are recognized as leaders by the membership.

Huu-ay-aht First Nation, in collaboration with four other Nuu-chah-nulth First Nations has been involved in Treaty negotiations for the past 15 years. At present, they are finalizing a comprehensive Treaty with the Governments of Canada and British Columbia. If the Treaty is ratified by all parties it should include a self-governance provision, land package, land use planning protocols, law-making authority, rights to resources, and financial transfers (BC Ministry of Aboriginal Relations and Reconciliation, 2007).

Because forestry practices are inherently related to socially constructed worldviews (Berger & Luckmann, 1966), the Huu-ay-aht worldview has important economic and cultural implications in terms of the current and future political climate regarding forest management of their traditional territory (Blakney, 2003). Similar to most Indigenous communities, the Huu-ay-aht have long-established traditions of utilizing local resources (Cote, 2002; Simms, 2004; Turner, 2005). In their case, the rich forest and marine resources in and around Barkley Sound continue to be drawn upon (Huu-ay-aht First Nation, 2005a). However, First Nations' rights and title do not necessarily equal access particularly given the current provincial/federal jurisdictional divide regarding natural resources (Booth & Skelton, 2004). Recovering their autonomy will herald in a new era for Huu-ay-aht First Nation in terms of applying their worldview to the concept of land stewardship.

3.2.2 Hishuk Tsawak

Indigenous (and non-Indigenous) scholars generally agree that Indigenous worldviews are founded on locally contextualized oral ways of knowing (Atleo, 2004; Berkes, 1999). This knowledge is anchored in a complex system of interrelationships between physical and metaphysical realms (Deloria, 1997; Howitt & Suchet-Pearson, 2003; McGregor, 2004). This research concentrates on the Huu-ay-aht worldview of 'Hishuk Tsawak' in the context of land stewardship. Hishuk Tsawak is a worldview that stems from the Nuu-chah-nulth creation story, which unites the physical and the spiritual worlds and predates European contact (Atleo, 2004; Huu-ay-aht First Nation, 2007c). Comparatively translated into English, Hishuk Tsawak means 'everything is one, everything is connected' (Atleo, 2004; Happynook, 2000a). The Nuu-chah-nulth creation story communicates an understanding that human, animal, and spiritual entities came from the same place and were able to move between each type of existence with ease[2]. At a certain moment in time some of these beings chose to remain in their particular form but with the knowledge and understanding that there was equality and interconnectedness between all beings and forms from the beginning (Atleo, 2004).

For Huu-ay-aht the natural environment is not outside or subordinate to the human environment. The environment is a place of relations not divisions (Happynook, 2000b). Cultural diversity and biodiversity are not independent of but reliant on each other (Happynook, 2000b). From the Huu-ay-aht perspective all life forms share a sacredness by having a common origin (Atleo, 2004). While biological differentiation is acknowledged, it is also understood as the result of transformations from a common source (Atleo, 2004). Cultural protocols, essentially agreements between life forms, ensure mutual recognition, responsibility, and respect (Atleo, 2004). For example, the Huu-ay-aht have stories that relay protocols regarding how to treat sacred cedar and salmon, which are fundamental cultural icons of Huu-ay-aht culture (Huu-ay-aht First

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[2] See Richard (Umeek) Atleo's (2004) work on the Nuu-chah-nulth worldview and creation story. Atleo is a hereditary Nuu-chah-nulth chief (and an academic scholar) and is therefore in a position to share creation stories in more detail than is presented here.

Nation, 2005b). These cultural icons continue to play a significant and meaningful role in the lives of Huu-ay-aht people. In terms of salmon, cedar, and Huu-ay-aht people, "any one of them out of balance can impact the whole" (Chief Councillor Robert Dennis, personal communication, February 3, 2006). Their worldview is thus founded on the creation and maintenance of balanced human and non-human relationships (Atleo, 2004; Happynook, 2000b).

3.2.3 Forestry in British Coumbia

In contrast to the Huu-ay-aht worldview, forestry in British Columbia is managed according to a Western capitalist worldview (Hayter, 2003). Forestry has been the economic mainstay of the province since European settlement (Barnes & Hayter, 1992). Approximately 50,000 hectares of the province's forests are now logged annually (Dearden & Mitchell, 2005). As a result of this intensive logging practice old-growth, temperate rainforests have been rapidly depleted over the last century (Strittholt, Dellasala, & Jiang, 2006). Over-harvesting, inadequate replanting, changes in land tenure, and uresolved land disputes between logging companies, governments, First Nations, and environmentalists are ongoing problems (Reed, 2000). Clear-cut logging has also led to the destruction of salmon spawning grounds as well as the loss of habitat for floral and faunal species (Hartman, Scrivener, & Miles, 1996; Young, 2000).
Interest groups publicly dispute the current forest tenure system, which is a provincial governmental policy that defines timber harvesting (Marchak, Aycock, & Herbert, 1999). Further, the government has traditionally excluded First Nations from defining and participating in the tenure system (Curran & M'Gonigle, 1999). In fact, there is such dissention that the largest demonstration of civil disobedience in Canadian history took place in 1993 at Clayoquot Sound (just north of Huu-ay-aht First Nation) on Vancouver Island to protest the removal of old-growth forests in the area (Braun, 2002; Reed, 2000). This 'War in the Woods' as it is now known, began in the 1980s and has continued for over 20 years (Hayter, 2003). Forestry in BC is therefore not an endeavour based solely on 'sound' science and management principles, it is based on the ideas of a particular group of powerful stakeholders with deep-seated interests in sanctioning forestry policies and practices to ensure the industry's continued existence (Davis, 1999). Forestry then involves complex socio-political, environmental, economic, and, as we have seen, spiritual factors, which stem from multiple social constructions of the landscape (Soper, 1995; Stedman, 2003).

In recent years the provincial government announced the removal and deregulation of thousands of hectares of lands, issuing tree farm licences (TFLs) across the province (BC Treaty Commission, 2003). This included over 70,000 hectares under TFL #44, which overlaps the traditional territory of Huu-ay-aht First Nation (West Coast Environmental Law Research Foundation, 2004). While the Huu-ay-aht land represents less than 20 percent of the total land issued to TFL #44, it is important to note that over 50 percent of the annual allowable cut is being taken from within their boundaries (Simms, 2004). This study was conducted based on Huu-ay-aht First Nation's desire to protect these resources, and, in essence, to protect themselves.

3.3 Methods

This project employed multiple methods of community-based participatory research (CBPR) techniques including a modified version of Photovoice (Wang, 2005). Photovoice is a participant-employed photographic exercise followed by semi-structured interviews utilizing the photographs to guide the discussion. Interviews began with a general line of questioning about environment and health issues, after which participants were shown their own photographs one at a time and asked where each picture was taken, why it was taken, and what it meant to them. Research participants (N=45) from the community were recruited using stratified purposive and opportunistic (snowball) sampling over a six-month period (October 2005 - April 2006) (see Appendices 4-11) (Creswell, 1998; Seidman, 2005). Also used in this study were participant observation (Spradley, 1980), informal focus groups in the form of community potluck dinners (Carr & Halvorsen, 2001), reflexive journaling, member-checking, and peer debriefing (Denzin & Lincoln, 2005) in order to supplement and expand the Photovoice data. The project in its entirety was guided by an Advisory Committee appointed by the Huu-ay-aht Council.

Inductive content analysis (Denzin & Lincoln, 2005; Hay, 2000) was used to evaluate data pertaining to Hishuk Tsawak. The analysis consisted of multiple rounds of coding using a qualitative software package (NVivo7™) to identify emergent themes followed by the development of consistent categories as concepts became more concrete (Hay, 2000; Miles & Huberman, 1994). To ensure credibility, transferability, dependability, and confirmability in the research, this study employed the following measures: multiple methods of data collection; pilot-testing the interviews; member-checking interview transcripts to confirm accuracy (see Appendix 13); prolonged immersion in the fieldwork to establish rapport and confirm interpretations; and an Advisory Committee to corroborate the results (Baxter & Eyles, 1997).

3.4 Findings

Four key findings emerged regarding the Huu-ay-aht worldview of Hishuk Tsawak. It became clear that Hishuk Tsawak is practiced on a daily basis on both a practical and spiritual level. However, when the interconnectedness of all things, which is at the heart of the Hishuk Tsawak worldview, is thrown off balance that practice is disrupted. All worldviews, including Hishuk Tsawak, are constantly in a dynamic state, often as a result of co-existence or competition with and influence from other worldviews. This creates tensions within and between worldviews. While dominant worldviews, such as Western capitalism, hold power at particular periods of time, even non-dominant worldviews, not unlike Hishuk Tsawak, have the power to influence others.

3.4.1 Living Hishuk Tsawak

The first finding concentrates on how the Huu-ay-aht live Hishuk Tsawak. The Huu-ay-aht worldview of Hishuk Tsawak underscores the interconnectedness between human and non-human beings.

> *Our creation story [begins at] a time when the animal world transformed into humans. At the creation moment for Huu-ay-aht some of the animals decided to stay in the human form and the rest went back to the animal world... We are one and the same, closely*

> *tied to the natural world that created the Huu-ay-aht and living within the natural law of nature. In our language, Hishuk Tsawak - everything is one. (John, participant)*

3.4.1.1 Practical and respectful application

Huu-ay-ahts have engaged Hishuk Tsawak as their way of being in their homeland for thousands of years. Strong evidence of its presence - through cultural protocols that demonstrate respect regarding the basic principle that all human and non-human life began from the same source - still exists and the Huu-ay-aht intend to pass it on to future generations.

> *In terms of the salmon, the first ones that come up the river you're supposed to eat the salmon, and bring all the bones back to the river so that the spirit of the salmon will live and they'll keep coming back to you at that place... and the same with the deer, that when you shoot a deer, you're supposed to clean it right there, dig a hole, put all of its entrails in there so that the spirit of the deer will come back because it's really, our belief is that... you're not actually hunting for them, they give themselves up to you because you need them, so that's an important thing that I will pass on to my kids. (George, participant)*
>
> *We usually try to leave something in return for the tree, give a gift to the tree for sharing its branches, or its wood, or its bark. (Kirk, participant)*
>
> *You got to get the cedar at certain times, cedar bark... and it's a lot of work because you have to pull it off, off the tree, and you have to give thanks to the tree, too, and who made the tree, and then it comes right off. But some people don't, and [the bark is] left hanging there. And that's not good. So, if you see [a bark strip] that's hanging there, somebody didn't say thank you. (Amanda, participant)*

Prior to the federal Indian Act and reserve system that tied Indigenous peoples to small parcels of land (Harris, 2004), the Huu-ay-aht moved throughout their traditional territory, being in and a part of the natural cycle. Huu-ay-aht families moved from place to place depending on the time of year and the availability of resources that were utilized. For example, families resided on beaches during summer months to harvest marine resources, near rivers during salmon spawning periods to catch, prepare, and preserve fish, and inland for land-based resources in winter months. The local environment has very much dictated Huu-ay-aht activities for generations. In recent decades there has been a shift in lifestyle such that community members now live year-round in the village. This lifestyle change has had a significant impact on Huu-ay-aht health and well-being.

> *Over the past one hundred and fifty years of contact many events have affected the environment and ecosystems upon which Huu-ay-aht relied to meet their social, cultural, spiritual and economic*

> *needs; the four pillars on which the Huu-ay-aht Nation is built. These events, in most cases, have been catastrophic to our people forcing them to leave their homelands looking for a means to provide for their families and loved ones. Simply being severed from their roots and traditional sources of food has had a critical effect on Huu-ay-aht health. You don't have to look too far to find diabetes, arthritis, heart disease, rheumatism and many other life threatening illnesses... The most devastating consequence, that goes unnoticed, is the fabric that wove Huu-ay-aht into their natural surroundings has been systematically taken apart, tree by tree, fish by fish. (John, participant).*

However, there is growing interest to return to the seasonal lifestyle.

> *I [want] to exercise my Aboriginal rights by living in the seasons...for the winter time [it] would be best... [to be] out of the flood zone, and also the [risk of a] Tsunami... in the winter all the fish go up the river so you have to follow the fish... You can hunt, fish and berry pick all before the winter starts if you are [away from the village]... And then [in the village] we have got all the seafood, and we can gather all that up before you move over to your winter home. I'd dry it, and jar it, freeze it and move it over there. And then do the hunting and the fishing as well. (Doug, community researcher)*

It is to be expected that aspects of the Huu-ay-aht way of being have changed over time. As a result, non-Huu-ay-ahts may perceive this as Huu-ay-ahts being *apart from* the practice of their worldview. However, Huu-ay-ahts still find ways to embrace Hishuk Tsawak to make sense of their lives.

> *Politics, food, managing resources... It's all connected, and that word 'Hishuk Tsawak', it always comes back to that. That's one of our... words that we try to use... in... all of our management philosophies, whether it be in forestry or fisheries or tourism. Everything is connected and it all means something. (George, participant)*

3.4.1.2 Spirituality

Hishuk Tsawak is inherently spiritual. However, conversations concerning Huu-ay-aht spiritual practices are not often a part of public discourse. Yet there are circumstances in which individuals have felt compelled to make such articulations to non-Huu-ay-ahts for the purpose of identifying externally-imposed threats to their spiritual autonomy. Cutting down trees becomes more than just a positive economic outcome for logging companies and forestry workers or a negative ecological impact to environmentalists but also a threat to the continued existence of Huu-ay-aht spirituality.

> *They're doing the logging over here. I used to bath up at the river here, like, we're not supposed to tell where we, where we're doing this, but I feel I need to say this because of the logging that's going*

> *on, and it could have a, an effect on my, what I'm praying for and, and it might have a negative effect on me or something. (Jarrett, participant)*

Just as a church or mosque is a sacred place for some, a particular forest floor, mountain top, or river bed is sacred to Huu-ay-ahts. While the former involves a built environment, the latter does not, and is not easily distinguished by those with different belief systems. However, altering these natural environments (for example, by clear-cutting) can contaminate the sacredness of the environment.

> *Individuals and families had places that were very, very sacred to them that they would go and bathe and pray and prepare for whatever the responsibilities that they had towards the community and to the society as a whole...[there] is this incredible change... It is inaccessible... I would say that... it would contaminate [the sacredness of a place]...I think it changes it... They logged all that and... that is a huge loss. (John, participant)*

3.4.2 Hishuk Tsawak Unbalanced

The second finding centres on the Hishuk Tsawak concept of balanced interrelationships. Cultural protocols exist in order to maintain balance between human and non-human beings. For example, cultural protocols were established with respect to sacred cedar and salmon as a way of reinforcing and maintaining a balanced relationship. The data indicate that logging company decisions to clear-cut massive tracts of land are undermining these codes of behaviour. Such disruptions upset the delicate balance between cedar, salmon, and Huu-ay-aht people. For many Huu-ay-ahts, a feeling of being out-of-place was the result. This, in turn, has led to a physical departure from their traditional territory altogether.

> *As the forest went, so did the fish, so did the Huu-ay-aht... they're interconnected, the humans, the salmon, the forest... when they clear-cut the forest it affected the trees, affected the salmon, and then our people moved away... We need them to be home... without one or the other, it's not whole anymore. (Donald, participant)*

> *All of that [logging] activity, the impacts that have taken place over the last 10 decades has had an impact on the environment itself and the ecosystems that sustained our food sources. Our medicines and so on have been really annihilated... The activity that has gone on has driven away our wildlife, has had a huge impact on our fisheries... when you look at our territory now, you can see that the environmental impacts have been huge and the result of that is that our people have had to move. They have had to move because their way of life has changed dramatically. (John, participant)*

According to Hishuk Tsawak the definition of a community is broadened; it extends beyond the village borders to include the entire Huu-ay-aht traditional territory. However, the freedom and capacity to move around their territory including being in and a part of the natural cycle, has been arrested due to external colonial forces (e.g. the federal Indian Act and reserve system). Consequently, Huu-ay-ahts have begun moving away from their territory, which, for many, results in a disassociation from their place-based, shared worldview.

3.4.3 Power to Define 'Truth'

The third finding considers the tensions that exist between different ways of knowing and the power to define what is true. The Huu-ay-aht worldview is founded on an understanding of interconnectedness between human and non-human beings on both a bio-physical and metaphysical level. Their longitudinal, observational, and oral knowledge of the local environment, based on their worldview, enabled them to see inter-dependent relationships between species. For example, Huu-ay-aht knowledge of the interconnectedness between cedar and salmon predates recent assertions made by Western scientists (e.g. Drake, Naiman, & Bechtold, 2006; Drake, Smith, & Naiman, 2005; Helfield & Naiman, 2006; Reimchen, 2000; Wilkinson, Hocking, & Reimchen, 2005). However, while this truth has long been recognized and accepted within the Huu-ay-aht population, acceptance of that truth beyond Huu-ay-aht borders is limited. It is only once those in a position of power, in this example, Western scientists, articulate the (same) truth that it is thus defined as 'true' (McGregor, 2004; Nadasdy, 1999; Simpson, 2004).

> *It was traditionally known that the salmon kind of feed the forest, but it was never proven except for within the last decade, when [Western-trained scientists] came up with the nitrogen and all the markers from the ocean. They were [able to] establish that it is physically true that salmon feeds the forest. They are actually providing the basic nutrients, nitrogen being the main one for plant growth and tree growth. Everything is one, Hishuk Tsawak. And the Nuu-chah-nulth have always pushed that as one of their principles and that is true. (Fred, participant)*

Differences in and lack of recognition from the dominant worldview create tension and frustration from those holding the non-dominant perspective. Huu-ay-aht participants identified a clear difference between their own worldview and that of government and industry. They were critical of government and industry, perceiving a limited, unsustainable, econo-centric approach to logging practices.

> *Management decisions need to be balanced in terms of the social, cultural, spiritual and economic circumstances... These [logs] are worth big bucks... [But] it can't just be economically driven. I think that is the difference between our view of the world and other people's view of the world, is that we take those other considerations into account when we make decisions... and it is not just driven by the almighty dollar. (John, participant)*

> *They are logging too much and the animals are getting chased away from their own homes because of human beings wanting the fucking trees... they are logging the hell out of it... They are making big bucks. They are just thinking of money. 'Cha-ching' [sound of a cash register] in their eyes. (Victor, participant)*

The dominant Western capitalist worldview regarding forestry in BC has particularly compelling implications for this First Nation in the context of their current Treaty negotiations.

> *We've always told the government that they're over-harvesting... [T]hey've increased the rate of cut...just to get the logs out before the Treaty is settled because... the amount of old growth that is going to be left once the Treaty comes is going to be... 10-20% of our territory and they're pumping logs out because they know that, it's crazy. (Barry, Community Advisory Committee member)*

> *The Treaty committee was coming up with these staggering numbers and information about the forestry in our territory. You know, how much land, our land base only took up 17% of the whole TFL land base and yet they were taking half of their annual allowable cut in there. (George, participant)*

3.4.4 Outside Influences

The last finding relates to the constant push-pull relationship between dominant and non-dominant worldviews. For every dominant worldview there are competing and contrasting non-dominant frameworks that exist at the margins (Cresswell, 1996; Foucault, 1980; Therborn, 1980). As such, worldviews are in constant state of turbulence; they are not static nor are they universal (Emery & Trist, 1965). However, when there is a hegemonic worldview in place, it is difficult to assert non-dominant worldviews, let alone challenge the dominant one. This is not to say that it cannot be done, understandable given what we have learned about power and knowledge from Foucault (1972). Multiple power relationships make up our society and these relationships are not established, applied, or strengthened without an associated discourse supporting them (Foucault, 1980). Foucault's ideas about power/knowledge have called attention to the fact that in terms of knowledge our actions are governed by those within the power structures themselves. Foucault was particularly interested and committed to social activism in support of those outside the mainstream (Gutting, 2005). He focused on marginalized discourses, the ways in which these discourses worked in tension with the dominant discourse, and the permeability of power and knowledge over time and space (Foucault, 1972). Since marginalized discourses work in tension with dominant ones, opportunities to glimpse new ways of 'seeing' present themselves.

Forestry policy and practice in BC is not immune to the tensions that exist between competing worldviews. Examining the power to define landscapes is at the core of many forestry conflicts involving First Nations. While a dominant worldview holds sway for a period of time, insights derived from marginal worldviews work at the 'edges' (Reed, 2007a). Such insights can be seen as discourses of resistance. Ideas from the outside chip away at the core and what are first seen as transgressions against the dominant worldview can lead to paradigm shifts (Cresswell, 1996; Therborn, 1980). We are seeing evidence of this in pioneering work of feminist and environmental geographers critically questioning current forestry policy and practice (Reed, 2007a). Indigenous peoples, like members of Huu-ay-aht First Nation, are also critically questioning the dominant worldview through their framing of forestry from a position of Hishuk Tsawak.

> *We play such an intricate role in the environment, our roles as human beings... we re-create that balance... [we] all have roles, right? If we overcompensate, whether by depleting [resources] or not doing our thing, we're still not creating that balance that we need. I think that's what's really missing. (George, participant)*

> *Western capitalism is quite consuming. I think that at some point a trigger is going to be pulled... and maybe it is the Indigenous people of the world that are going to pull that trigger and say 'no, no' and maybe it is through taking control of your little piece of traditional territory. Maybe it is through Huu-ay-aht finding ways to ensure that the natural resources that we are going to share with the world are done on a sustainable basis. And that there will always be cedar, cypress, beautiful trees in our territory that can be used but not to the detriment of the landscape, the environment, the ecosystems, or our people. I think it can be done. (John, participant)*

3.5 Discussion

The results of this work suggest that the Huu-ay-aht worldview of Hishuk Tsawak is simultaneously robust in place and transgressionary beyond Huu-ay-aht borders. Locations - the physical and the social - are at the fore of explaining this seeming contradiction. Location matters in the expression and maintenance of this Indigenous worldview. The *edges* of location also matter, 'edge' being a metaphor for bringing ideas from different worldviews together, as edge-work has a role in the augmentation of worldviews (Reed, 2007a). The edges of worldviews are not discrete spaces, rather they are locations of interaction and exchange (Turner, Davison-Hunt, & O'Flaherty, 2003).

3.5.1 Physical Location and a Robust Worldview

Societies across time and space have held differing worldviews, which in turn have co-existed and challenged one another (Therborn, 1980). When there is a general consensus regarding certain ideas among the dominant population in society and alternatives are neglected, the term 'hegemony' is typically applied (Gramsci, 1971). A classic example of a hegemonic worldview and one that directly applies to this study is European colonialism. To fully appreciate the current socio-political context of forestry policy and management in Canada requires recognition of the historico-political context of colonialism that is embedded in Canadian society (Rossiter & Wood, 2005). Starting in the 15th century European colonial systems began to overpower North American

Indigenous societies and their knowledge systems (Fournier & Crey, 1997). The colonial process has been an attempt to systematically dismantle Indigenous social, economic, political, cultural, educational, and health institutions (Loomba, 1998; Young, 2003).

The consequences of colonialism exist today and the aftermath continues to affect generations of Indigenous peoples (Ashcroft, Griffiths, & Tiffin, 2000; Smith, 1999). For example, Indigenous Knowledge[3], developed within an Indigenous worldview and understood as culturally and spiritually based ways that Indigenous peoples relate to their ecosystem (McGregor, 2004), has been continually threatened by colonial practices and the forces of cultural genocide (Battiste & Youngblood, 2000). However, Indigenous worldviews and Knowledge have, in many cases, managed to survive mainly through private discourse as products of direct observation and experience passed from generation to generation through oral tradition (Berkes, 1999). As a result, these worldviews and associated Knowledges have not only begun to re-emerge in Indigenous discourse but also positively stimulate others (e.g. scientists, land users) to think about (Posey, Dutfield, & Plenderleith, 1995) and challenge dominant worldviews (Alfred, 1999).

In the work presented here, despite the European colonial history, oppression, and a hegemonic worldview regarding forestry that surrounds Huu-ay-aht First Nation, Hishuk Tsawak continues to survive and thrive within the traditional borders of Huu-ay-aht First Nation. The way in which such resilience has occurred can be explained by the Huu-ay-aht connection to their local environment for thousands of years. Their knowledge and understanding of the interrelationships between species, based on their worldview, is indicative of that reality. This finding supports theories that suggest space/place *and* time are significant factors when exploring the strength and resilience of worldviews (Cresswell, 1996; 2004; Therborn, 1980).

Reflecting and reinforcing time and place in the formation and maintenance of this particular worldview, not in the sense of decades but in terms of millennia, strengthens the embeddedness of Hishuk Tsawak. The physical location of the Huu-ay-aht traditional territory cocoons Hishuk Tsawak from other worldviews that compete with and contest it. This is not to say that Hishuk Tsawak has not experienced tension at the edges nor is there necessarily homogeneity in terms of living Hishuk Tsawak throughout the Huu-ay-aht population. However, a certain strength is afforded to Hishuk Tsawak in that it has continued to survive/thrive in place despite intentional colonial attempts to dismantle it. Longevity in and attachment to their physical place has been central to Huu-ay-ahts' understanding of the interconnectedness between the physical and metaphysical. Thus f Hishuk Tsawak despite surrounding dominant worldviews.

3.5.2 Social Location and Resistance at the Edge

Present-day forest management has been characterized as species and ecosystem destruction at such a rate and extent that the minimum biological requirements needed to regenerate forests are at risk (Howitt, 2001; Strittholt et al., 2006). Such an environmental crisis (Marchak & Allen, 2003) necessitates drawing on multiple sources of knowledge to respond to this threat. However, in terms of forestry in BC, the Western capitalist worldview still defines current practices. Yet feminist, environmentalist, and other worldviews are beginning to chip away at the borders of this dominant worldview and a struggle among the competing worldviews has ensued (Reed, 2007a).

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[3] In terms of resource management, Traditional Ecological/Environmental Knowledge (TEK) is often used interchangeably with or as a sub-set of Indigenous Knowledge.

Indigenous peoples' worldviews, their values and Knowledge, have not been traditionally utilized in contemporary resource management (Howitt, 2001). Further, resource managers have often neglected to fully factor in the social and environmental consequences of their decisions that affect neighbouring Indigenous communities (Howitt, 2005). However, as a result of growing interest and support of Indigenous Knowledge and worldviews, Canadian resource management policies have begun to incorporate Indigenous Knowledge into environmental assessment and resource management (Berkes, 1999; Stevenson, 1996; Usher, 2000). Consequently, there is a growing body of literature regarding the ways in which Indigenous Knowledge is being incorporated into Western forest management (e.g. Mabee & Hoberg, 2006; Menzies, 2006; Usher, 2000).

There is also a sense of urgency among some academics to document Indigenous Knowledge, and by extension, Indigenous worldviews (Nadasdy, 2003). It is their alleged concern that Indigenous Knowledge is vulnerable given that Elders, customarily the holders of this oral knowledge, are dying (Simpson, 2004). However, Indigenous scholars (e.g. Alfred, 1999; Deloria, 1997; McGregor, 2004; Simpson, 2004; Smith, 1999) argue that while these are noble attempts to call for the preservation of Indigenous Knowledge a critical point is being overlooked (Simpson, 2004). Elders have always died but Indigenous Knowledge systems have remained intact, at least until European colonization. Instead, the continuing colonial infrastructure, which threatens these domains, must be dismantled (Simpson, 2004). At the same time, these and other scholars caution against inserting Indigenous Knowledge, such as the Hishuk Tsawak worldview, into a Western paradigm that suits resource management needs and runs the risk of maintaining current power imbalances (McGregor, 2004; Nadasdy, 1999; Simpson, 1999).

The findings in this study echo these concerns. According to Huu-ay-aht participants in this study, the environmental damage caused by intensive forestry, which is based on Western capitalist (and colonial) resource management practices, has led to an out-migration of Huu-ay-aht people from their traditional territory. The destruction of valued environment has led to a sense of alienation from the very places where Indigenous cultures and identities are constructed (Tipa & Welch, 2006). It is this physical departure that threatens the sustainability of Hishuk Tsawak and other similarly marginalized worldviews. Thus, influences from marginalized worldviews are not only working at the edges of dominant worldviews. Rather, influences move in both directions putting an already marginalized worldview at risk of being subsumed by the dominant worldview.

Western-based top-down management policies threaten to put Indigenous Knowledge at risk by devaluing, exploiting, and/or distilling it (McGregor, 2004; Nadasdy, 1999; Simpson, 2004). While we cannot ignore that colonial policies and practices continue to exist in forest management practices, there is a growing consensus that cultural diversity and inter- and intra-group heterogeneity can enhance management decisions (Fraser, Dougill, Mabee, Reed, & McAlpine, 2006; Natcher, Davis, & Hickey, 2005). In Canada as elsewhere, co-management between Indigenous peoples and natural resource managers is being touted as a potential solution for addressing fundamentally different worldviews and responding to the current challenges in resource management (Ellis, 2005). Co-management, loosely defined, is the involvement of government and local resource users in sharing authority and accountability for resource management (Carlsson & Berkes, 2005). In actuality co-management ranges from token participation to substantial sharing of power (Coombes & Hill, 2005; Notzke, 1995). Although genuine co-management is not universally accepted or employed, positive benefits including cross-cultural relationship building and exchange are taking place (Mabee & Hoberg, 2006). Further, certain practices gleaned from Indigenous Knowledge holders (e.g. treating resources respectfully, using resources in a sustainable way for use by future generations) have become commonly cited principles in resource management (Berkes, 1999; Schramm, 2005).

The concept of co-management is not without its problems, some of which are just now beginning to be explored. For example, academic discourse can (and in some cases does) de-legitimize and further colonize Indigenous Knowledge (Castleden & Garvin, 2004). Communication and cultural barriers maintain power imbalances and often diminish the contributions of Indigenous Knowledge to environmental decision-making (Ellis, 2005). Finally, conflicts can occur between those with fundamentally different value systems and (colonial) histories when they attempt to co-manage resources (Natcher et al., 2005). Taken together, these and other studies are concerned with how social location matters in the interplay between power and worldview particularly in a neo-colonial context. However, with multiple contributions from feminist, environmental, and Indigenous epistemologies (among others) at the edges of a dominant Western capitalist worldview, fundamental changes in terms of how forestry is understood and practiced may occur (Reed, 2007a; 2007b).

3.6 Conclusion

This paper has investigated how the worldview of one particular First Nation has demonstrated resilience in the presence of a dominant Western capitalist worldview regarding forestry management. The findings indicate that physical and social location matter in terms of the strength and continuity of the Huu-ay-aht worldview. For this First Nation, having an embedded historical attachment to their territory has been an essential element for preserving their worldview despite outside influences. However, their social location as colonized people has meant that their worldview has been constantly assaulted and is continually at risk of being dismantled, particularly as Huu-ay-ahts leave their traditional territory.

Today, the Huu-ay-aht live in a world that is, in many ways, significantly different from the world of their ancestors (Huu-ay-aht First Nation, 2005b). Despite the negative impacts of colonialism some things remain unchanged, including their worldview and cultural values (Huu-ay-aht First Nation, 2007b). The strength of their worldview is particularly significant given Huu-ay-aht First Nation's current stage in the Treaty process. As they approach a return to self-governance they will be in a position to reinvigorate and apply Hishuk Tsawak to the stewardship of the forests and other resources beyond their reserves to include significantly more of their traditional territory. At the same time, the provincial government and the forestry industry in BC are making efforts to engage in more positive relationships regarding forest management (British Columbia, 2001; Council of Forest Industries, 2007). For example, the provincial government has initiated a remapping process to consider economic, social, and ecological priorities for the Great Bear Rainforest along the West Coast of BC, which suggests at least incremental acknowledgement of different worldviews regarding the landscape (Clapp, 2004).

In the interim, as the findings show, the Huu-ay-aht are living Hishuk Tsawak on a daily basis through their spirituality and cultural protocols. The Huu-ay-aht are also safeguarding their worldview in a number of ways. For example, they recently approved a Huu-ay-aht constitution that 'reflects the hopes and aspirations of the Huu-ay-aht to govern themselves and eliminate *Indian Act* administration' (Huu-ay-aht First Nation, 2007a). Huu-ay-ahts are maintaining cultural activities (e.g. potlatching, carving, weaving) and promoting language renewal (e.g. a recently published phrase book with accompanying CD and a 'language-learning nest' for Huu-ay-aht children and families). They have begun habitat restoration of the 35 salmon-bearing water systems in their territory and have brought their worldview and story of action to an international audience through their documentary film-making of *Heart of the People* and *Return of the River*.

Beyond the Huu-ay-aht worldview of Hishuk Tsawak, examples are surfacing that indicate a shift in the dominant worldview regarding the human-environment relationship. In academic discourse, human geographers as well as human, cultural, and political ecologists are moving forward the concept of 'everything is connected' (see, for example, Clapp, 2004; Reed, 2007b; Toupal, 2003; Zimmerer & Bassett, 2003). The push for interdisciplinarity also suggests that scientific problems can best be solved if a more holistic approach is taken (see, for example, Freudenburg & Gramling, 2002; Ostrom & Nagendra, 2006; Vedeld & Krogh, 2005). In public discourse, this can also be seen in the popularity of several recent bestselling non-fiction books including, for example, *A Short History of Progress* (Wright, 2004), *Collapse: How Societies Choose to Fail or Succeed* (Diamond, 2005), *The Weather Makers: The History and Future Impact of Climate Change* (Flannery, 2005), and *The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization* (Homer-Dixon, 2006) as well as the recent Academy Award-winning documentary film '*An Inconvenient Truth*' already viewed by millions around the world. As former American Vice President Al Gore asserts regarding our impact on and our relationship with the natural world it is '*not a political issue, it's a moral issue*'.[4] What we are seeing is a new generation of citizens embracing the idea of the interconnectedness of all things.

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[4] Al Gore, in reference to the film "An Inconvenient Truth" released in 2006, comments on environmental issues during his acceptance speech for Best Documentary at the 79th Academy Awards (among several of the awards this film has received).

Western perspectives *are* useful in terms of contributing to our knowledge or making sense of the world. However, the Western capitalist worldview has taken a hegemonic position over other worldviews (e.g. non-Western, feminist, Marxist) including Indigenous spiritual-based worldviews in our current discourse regarding forest management (Deloria, 1997). What is also important to bear in mind in terms of worldviews is that what constitutes 'what is, what is good, and what is possible' in one context does not necessarily apply to the other context (Atleo, 2004; Therborn, 1980). To be precise, what may appear to have no significant relationships from a Western capitalist worldview, will have meaningful relationships from other perspectives (Atleo, 2004). These become important considerations as resource managers and bureaucrats grapple with different perspectives on natural resource management.

Whether the current environmental impacts of intensive forestry practices are explained by an spiritually-embedded Indigenous worldview, a Western capitalist worldview, or some other worldview (or combination), the current forestry management structure is one of an ecosystem out-of-balance and unsustainable (M'Gonigle, 2000). Conceivably, Indigenous observations of change to their local environment have the potential to contribute to the multiple worldviews that are serving to improve the current state of our total environment.

3.7 References

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Chapter 4.

AS SACRED AS CEDAR AND SALMON: UNDERSTANDING THE MEANING OF 'RESOURCES' - PERSPECTIVES FROM HUU-AY-AHT FIRST NATION, BRITISH COLUMBIA[1]

4.1 Introduction

Indigenous peoples, the original inhabitants of what is now known as the province of British Columbia (BC) on the West Coast of Canada, have been in the area for thousands of years (Arima, 1983; Atleo, 2004; Ward, Frazier, Dew-Jager, & Paabo, 1991). Although exact numbers have yet to be determined, prior to European contact the Indigenous population was quite high, in the tens of thousands (Arima, 1983). The region, rich in marine and land-based resources, had been able to sustain this sizeable population throughout their existence (Turner, 2005). Three centuries ago, when Europeans first explored the West Coast and later settled there, they did so largely for the natural resources (Braun, 2002). Correspondence in the late 1700s from European explorers back to Europe indicated that the trees were so big and plentiful that they could never harvest them all and the fish stocks were so abundant that rivers could be crossed on the backs of salmon (Dearden & Mitchell, 2005). Consequently, commercial fishing, whaling, and sealing began in the early 1800s (Cote, 2002; Goddard, 1997; Gregr, Nichol, Ford, Ellis, & Trites, 2000) while industrial forestry began in the late 1800s (Barnes & Hayter, 1992). In less than 200 years the whaling and seal stocks collapsed (Goddard, 1997), stocks of salmon and other fish species have been depleted (Lackey, 2003), and massive areas of old-growth forest have been clear-cut (Strittholt, Dellasala, & Jiang, 2006).

This paper explores how one population group has managed to maintain its resources for thousands of years (Turner, Boelscher Ignace, & Ignace, 2000) while another population group has ravaged those same resources in less than 200 years (Cutter & Renwick, 1999; Trosper, 2003). Critical readers might argue that geographer, Jared Diamond's (Diamond, 2005) publication *Collapse: How Societies Choose to Fail or Succeed* has effectively responded to this question. Diamond identifies eight legitimate factors to explain changes to access and availability of resources: (1) de-forestation and habitat destruction; (2) soil erosion, salinization, fertility losses; (3) water management problems; (4) over-hunting; (5) over-fishing; (6) effects of introduced species on native species; (7) human population growth; and (8) increased per-capita impact of people. Certainly these factors apply to the situation described above regarding resource use/overuse in BC. However, it is not just changes to access and availability of resources but also the *meaning* of resources (which came before and determined 'resource' use) that has led to differences in how they are used.

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[1] A version of this chapter is in preparation to be submitted for publication to *The Canadian Geographer.*

4.2 Background

4.2.1 Defining 'Resources'

One of the basic objectives of (Western) geography has been the study of the human-nature interface (Massey, Allen, & Sarre, 1999) of which 'resource' is a key concept (Holloway, Rice, & Valentine, 2003; Tuan, 2004). Geographers have traditionally defined resources as 'things' that have a particular utility and value (to humans)[2] (Dearden & Mitchell, 2005). According to conventional geographic literature, 'neutral things' only become resources when humans find a use for them and then they become sources of value and have meaning within a particular political, cultural, and economic context (Bakker & Bridge, 2006; Cutter & Renwick, 1999). In this literature, natural resources are typically understood as things that have been obtained for human use from the earth including, for example, trees, water, minerals, and animals (Cutter & Renwick, 1999). From this dominant (Western) perspective, it is therefore understood that there is a hierarchical separation between human and non-human beings (nature) so far as natural resources go (Berkes, 1999; Bertolas, 1998; Turner, 2005). However, there is a growing body of literature that seeks to problematize the role of non-human actors in the human-nature dyad (Head & Muir, 2006; Power, 2005; Soper, 1995; Whatmore, 2002). There is also emerging literature concerning the importance of how space/place and identity are conceptualized, particularly when infused with 'the political' (Allen, 2004; Amin, 2004; Massey, 2004). For example, when we reflect on the progress of geography as a formal academic discipline we can see that it was developing at a time when European expansion was well underway and gaining control over much of the Americas, Africa, and Asia (Agnew, Livingstone, & Rogers, 1996; Tuan, 2004). As such, the development of academic thought regarding the human-nature interface in general and the meaning ascribed to resources (non-human actors) in particular began during a period of cultural exclusion and colonialism (Said, 1978).

Accordingly, in mainstream discourse identifying something as a resource has been confined to a human cognitive process (Bakker & Bridge, 2006; Cutter & Renwick, 1999; Greider & Garkovich, 1994). Resources, by this definition, are determined as a result of socially constructed mechanisms in that they do not exist in and of themselves, they are defined as such by human actors (Berger & Luckmann, 1966; Demeritt, 2002). Nevertheless, concepts and definitions are constantly in a state of turbulence; they are neither static nor are they universal (Emery & Trist, 1965). For example, Canadian resource management systems have traditionally neglected Indigenous perspectives regarding resources due to (intentional/unintentional) colonial policies and practices (Berkes, Gardner, & Sinclair, 2000; Harris, 2004). As such the *meaning* of key geographical concepts, including 'resources', may run the risk of being too narrowly defined (Tuan, 2004).

Cedar and salmon are two heavily exploited 'resources' in British Columbia, both of which contribute significantly to the provincial economy. Cedar and salmon are also considered to be the cornerstones of a coastal First Nation's culture (Huu-ay-aht First Nation, 2007a). The work reported here details the findings of a case study undertaken in partnership with Huu-ay-aht First Nation in BC concerning their perspectives on the importance and meaning of these two 'resources'. By exploring their perspectives there is potential to develop an understanding of the multiple layers of meaning that can be attached to geography's conventional definition of resources.

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[2] This traditional view is considered an anthropocentric view. In contrast, an emerging ecocentric or biocentric view values aspects of the environment simply for its existence (Dearden & Mitchell, 2005).

4.2.2 Huu-ay-aht First Nation

Huu-ay-aht First Nation is located on the West Coast of Vancouver Island in BC (see Appendix 2: Map of Huu-ay-aht First Nation). Their traditional territory encompasses approximately 78,000 hectares of land and extends to the deep-sea waters of the Pacific Ocean (West Coast Vancouver Island Aquatic Management Board, 2007). Since the federal government established a reserve system for Indigenous peoples in Canada (Harris, 2002), their 'allocated' land-base has been reduced to 816 hectares of land on 13 reserves (BC Ministry of Aboriginal Relations and Reconciliation, 2006). Huu-ay-aht First Nation is approximately 250 kilometres northwest of Victoria, which is the capital city of the province. The main routes of access to Huu-ay-aht First Nation are via gravel logging roads or boat from Port Alberni, which is approximate 80 kilometres northwest of the Nation. Since the 1960s, there has been one permanent village for the Nation, Ana'cla, which is situated on the shores of Pachena Bay in Barkley Sound.

Approximately 150 Huu-ay-ahts live 'on reserve' in Ana'cla while the majority of Huu-ay-aht First Nation's 600 members live 'off reserve' in surrounding urban areas including Port Alberni, Nanaimo, Victoria, and Vancouver. Huu-ay-ahts are descendents of Nuu-chah-nulth peoples (Arima, 1983) and Huu-ay-aht First Nation is one of 14 First Nations of Nuu-chah-nulth peoples on Vancouver Island (Nuu-chah-nulth Tribal Council, 2007b). The Nuu-chah-nulth population currently rests at 8,000, a fraction of the original Nuu-chah-nulth inhabitants of the West Coast prior to European contact (Nuu-chah-nulth Tribal Council, 2007a). Early European estimates indicate there were approximately 30,000 Nuu-chah-nulth in the late 1700s; however, archaeological evidence suggests there may have been between 70,000 and 80,000 Nuu-chah-nulth peoples living in the area (Arima, 1983). The significant decline in population, as much as 90 percent, has been the result of European-introduced diseases including, for example, smallpox, tuberculosis, and influenza (Waldram, Herring, & Young, 1995).

Similar to Indigenous groups around the world, Huu-ay-ahts living in their traditional territory have mainly relied on the resources found in their immediate environment (Monks, McMillan, & St. Claire, 2001; Stewart, 2005; Turner, 2005). The Huu-ay-aht have continually drawn upon the rich forest and marine resources in and around Barkley Sound for thousands of years (Huu-ay-aht First Nation, 2005; McKechnie, 2005). For example, marine resource studies indicate ongoing use of 22 species of sea mammals, 35 species of fish (including 5 species of salmon), and 55 varieties of shellfish (Nuu-chah-nulth First Nations, 2000). As such, the 14 First Nations of Nuu-chah-nulth peoples were recognized as accomplished whalers and fishers (Cote, 2002; Goddard, 1997). They also were and still are acknowledged for their skill with building and navigating ocean-going cedar canoes and carving cedar totem poles (Arima, 1988; Ki-ke-in, 2005).

The Huu-ay-aht worldview is 'Hishuk Tsawak' (everything is one, everything is connected). It stems from their creation story, which unites the physical and the spiritual worlds (Atleo, 2004; Happynook, 2000a; Huu-ay-aht First Nation, 2007b). In essence, their creation story communicates an understanding that human, non-human, and spiritual entities came from the same place and were able to move between each form of existence with ease (Atleo, 2004). At a certain moment in time some of these beings chose to remain in their particular form but with the knowledge and understanding that there was equality and interconnectedness between them from the beginning (Atleo, 2004). Therefore, while biological differentiation is acknowledged, it is also understood as the result of transformations from a common source (Atleo, 2004). From this worldview the Huu-ay-aht identify that all life forms share a sacredness by having a common origin (Atleo, 2004).

For Huu-ay-ahts the natural environment is not outside or subordinate to the human environment. It is a place of relations not divisions, where cultural diversity and biodiversity are not independent of but reliant on each other (Happynook, 2000b; Trosper, 2003). There are cultural protocols, essentially agreements between life forms (e.g. cedar, salmon, and Huu-ay-ahts), to ensure mutual recognition, responsibility, and respect (Atleo, 2004). Their worldview is thus founded on the creation and maintenance of balanced human and non-human relationships (Atleo, 2004; Happynook, 2000b). As a result, the general perception among Huu-ay-ahts is that cedar and salmon extend beyond the conventional (Western) understanding of what constitutes a natural resource.

4.3 Methods

The work reported here is part of a larger community-based participatory research study on environment and health risk perspectives developed in partnership with Huu-ay-aht First Nation. The project in its entirety was guided by an Advisory Committee (n=3) whose members were appointed by the elected Council of Huu-ay-aht First Nation. Multiple methods of community-based participatory data collection techniques were employed including a modified version of Photovoice (Wang, 2005; Wang & Burris, 1997), which is a participant-employed photographic exercise followed by semi-structured interviews utilizing the photographs to guide the discussion. Participant observation (Spradley, 1980), informal focus groups in the form of community potluck dinners (Carr & Halvorsen, 2001), reflexive journaling, member-checking, and peer debriefing (Denzin & Lincoln, 2005) were also utilized.

Participants (N=45) from the village were recruited over a six-month period using stratified purposeful and opportunistic (snowball) sampling (see Appendices 4-11) (Creswell, 1998; Seidman, 2005).The data reported on in this paper emerged mainly from interview text regarding cedar and salmon (see Appendix 12) but also from the other participatory methods which supplemented and expanded on the analysis. Inductive content analysis (Denzin & Lincoln, 2005; Hay, 2000) was used to explore the meaning and importance that the Huu-ay-aht place on cedar and salmon. The analysis consisted of multiple rounds of coding using a qualitative software package (NVivo7™) to identify emergent themes followed by the development of consistent categories as concepts became more concrete (Hay, 2000; Miles & Huberman, 1994). This study employed the following measures to ensure credibility, transferability, dependability, and confirmability in the research: multiple methods of data collection; pilot-tests of the interviews; member-checking interview transcripts to confirm accuracy (see Appendix 13); prolonged immersion in the fieldwork to establish rapport and confirm interpretations; and an Advisory Committee to corroborate results (Baxter & Eyles, 1997).

4.4 Findings

Cedar and salmon have served as cornerstones regarding the production and reproduction of Huu-ay-aht social, cultural, and spiritual practices. As a result, five main themes regarding the meaning of cedar and salmon emerged from the data: (1) daily uses; (2) employment; (3) spirituality; (4) representation; and (5) relationships. While some of the data point to evidence of cedar and salmon falling within the traditional definition of 'natural resource', there is also evidence suggesting that cedar and salmon have broader and deeper meanings. Participants rarely spoke of one without mentioning the other, representing and reflecting the Huu-ay-aht worldview of Hishuk Tsawak involving the sacred interconnectedness of all human and non-human beings.

4.4.1 Cedar

4.4.1.1 Daily use

For thousands of years Huu-ay-ahts have used cedar in daily living needs for housing, transportation, medicine, and heating as well as the collection, storage, and preparation of food. Participants readily described how cedar has been an integral part of daily life for generations.

> *When I think of cedar, I think pretty much from when a child is born. If you think about it... cedar was used for clothing. It was used to carry their food. It was used for fishing...they used cedar on the tools they made for building, or hunting or anything like that...Even right through to death. They used to use cedar for the wood boxes... It was a necessity for our people. (Evelyn, Advisory Committee member)*
>
> *I can think back, my grandpa... would bring his medicinal plants, he'd have a little drink and... it was always in a mason jar and it was, there was cedar. He had cedar in there soaking and he used that thing to heal everything. When you cut yourself or you did something he was clapping that stuff on you. (Lynn, participant)*

Many of the traditional uses for cedar are still employed today. Two examples, in the context of food collection and preparation, illustrate this point.

> *[To collect] siihm'uu (fish eggs)... You just cut [a cedar tree] down green, right out of the forest... You put it in [the water]... You'll find that you can just peel [the eggs] off [the branches]. The reason we use... cedar is [it's] flat, so when you peel it, it comes right off and also cedar is such a sacred plant. (George, participant)*

> *I still use cedar quite a bit for hanging fish, your fish sticks [for smoking fish] and all that come from the cedar. (Doug, community researcher)*

However, availability and access to quality cedar is becoming an increasing challenge and the future is uncertain. The specific quality of wood or bark that weavers and carvers use is growing sparse.

> *Our people still need cedar... it isn't just that they need any cedar. They need particular cedar... those ideal cedars are becoming really hard to find now. It almost becomes a needle in the haystack and it even becomes, Heather, to the point where we're now starting to take the second best to what was the ideal and that's what scares me... if we don't do something, quickly, to make sure that we have cedar for present and future use and I felt and still feel that current management practices don't factor that in. If they were, I believe we would say this area is being retained for future cedar cultural uses. That doesn't exist in the [provincial government's current management practices]. (Donald, participant)*

4.4.1.2 Employment

Cedar is a source of employment for Huu-ay-aht people. The First Nation employs some of its members through its harvesting company while other members work for non-Huu-ay-aht forest product companies. Additionally, the First Nation has a forestry department that monitors the work of forestry companies throughout the traditional territory. Carvers in the village also earn income through their craft.

> *Cedar is my job...I have cut shake and shingle blocks since... I got out of school. I started cutting blocks... We planted cedar trees too. (Hubert, participant)*

> *I've worked with cedar, pretty well all my life, cutting it, blocking it up, carving it up. Cedar, cedar bark is good to use, for us to use for costumes that's made to wear, making canoes, dancing masks, it does mean a lot to me because of my art. (David, participant)*

4.4.1.3 Spirituality

Conversations concerning Huu-ay-aht spiritual practices do not often occur in public. When references to spiritual practices were made, cedar figured prominently. In particular, there are certain cultural protocols that are followed to demonstrate spiritual respect for this special resource when cedar is harvested.

> *We usually try to leave something in return for the tree, give a gift to the tree for sharing its branches, or its wood, or its bark. (Kirk, participant)*

Cedar is used as a spiritual instrument to provide protection for the living when there is a death in the First Nation.

> *When there's deaths in the family you put your [cedar] branches up to help cleanse your own body and your house. (Grace, participant)*

Cedar is also used for ritual cleansing during spiritual prayer.

> *We used to go and bathe in the river and I was taught too that we had to wipe ourselves down with cedar, cedar boughs, eh, branches, instead of using a towel. And, and you had to pray to the, to the tree to let them know that we're going to use his, his or her branches to cleanse our self. So now that's really important to me, eh. And it made me feel good. Really alive and, and connected to whenever and whatever, you know and I was really at peace. (Jarrett, participant)*
>
> *When our canoe was first built... I cleansed for 3 weeks. You bathe in the river, you get naked, and you have to cleanse yourself with cedar branches and cleanse yourself. You have to be spiritual and you have to talk to the creator... just to paddle in the canoe... to where we wanted to go and make sure that we are safe, nothing is going to happen to us. (Victor, participant)*

4.4.1.4 Representation

Cedar is used as a symbol to represent Huu-ay-aht borders, history, and stories for both Huu-ay-ahts and visitors to their territory.

> *There were cedar totem poles that marked boundaries. (John, participant)*

Continuing this cultural practice, the Huu-ay-aht recently erected a cedar signpost marking the entrance to their traditional territory. This was a significant event because neighbouring First Nation leaders who were attending the ceremony officially recognized the Huu-ay-aht boundary marker as legitimate and binding.

Through cedar totem poles, cedar continues to serve as a record of historical events in the Huu-ay-aht oral tradition. Cedar totem poles also play a role in telling Huu-ay-aht origin stories and the way in which Huu-ay-aht make sense of the physical and metaphysical worlds.

> *Well, without cedar we wouldn't have... carvings that tells [our] story from the past to the present... It hasn't changed. We still use it... it's the same wood for carvings, totem poles, and they still tell the same stories from a long time ago. (Geoffrey, participant)*
>
> *There were cedar totem poles that spoke of supernatural beings that inhabited our traditional territory in the days [of] our creation story. Legends and stories that talk about how we came to be in*

> *Huu-ay-aht territory... cedar transcends throughout our lives, the way we live our lives...cedar is extremely important to us. (John, participant)*

4.4.1.5 Relationships

At present participants themselves continue to use cedar for carving or weaving or they have a family member who engages in these cultural activities. Social interactions often revolve around carvers engaged in their work either in the home or at the community's carving shed.

> *I have a bunch of relatives, cousins, and uncles that carve so you know sometimes I'll sit there all afternoon you know, just watching them. (William, participant)*
>
> *I've been trying to watch my father right. He's a carver... I guess it's been a part of my life forever since I was a little kid. (Greg, participant)*

Cedar is a part of what defines Huu-ay-aht people as Huu-ay-aht. There is a basic relationship between the people and cedar that is an immutable part of their history.

> *We can't lose [cedar]. It is our history... We need to know our history. Our younger kids that are not born yet, they need to learn this too, right. (Victor, participant)*

Relationships between Huu-ay-aht people are also underscored through the giving and receiving of cedar.

> *I was going to give [my carving] to [my grandparents], my first one. I'm going to try and get it done before [my grandma's] birthday. (Chris, participant)*
>
> *I'm carving something for my daughter. (Hugh, community researcher)*

The giving of cedar is an important symbol used in building, maintaining, and/or restoring inter-tribal relationships with other First Nations. In Nuu-chah-nulth culture, potlatches are opportunities to (re)establish significant relationships between individuals, families, and Nations through the gifting and receiving of objects. Potlatches are extremely complex and significant ceremonies, which celebrate and mark occasions (e.g. births, marriages, deaths, and memorials) while at the same time recognizing political structures and ongoing economic, social, and spiritual relationships (Bracken, 1997; Schreiber, 2002). Potlatches were declared illegal and banned by the federal government in 1884 (Canada, 1996) although they were still held in secret during the prohibition period (Cole & Chaikin, 1990). The prohibition was eventually rescinded in 1951 and public potlatches resumed (Cole & Chaikin, 1990).

> *We used to use our cedar for... making totem poles for peace between Tribes. (Kirk, participant)*

As part of a cycle of cementing relationships between Nations, the Huu-ay-aht have gifted cedar totem poles in recent times to, for example, a bordering Nuu-chah-nulth First Nation for its 'big house'[3]. Another Nuu-chah-nulth First Nation gifted a 30-foot cedar canoe to the Huu-ay-aht to celebrate the building of the 'House of Huu-ay-aht' big house (Huu-ay-aht Councillor Irene Williams, personal communication, May 3, 2007). Most recently (2006) Huu-ay-aht First Nation presented a totem pole to the family of a highly respected leader from a neighbouring First Nation at a memorial potlatch. The importance of giving that pole was to recognize an individual for his strength, courage, wisdom, and achievements (Huu-ay-aht Chief Councillor Robert Dennis, personal communication, May 4, 2007). This particular event marks the first time a Huu-ay-aht totem pole has been given at a Nuu-chah-nulth potlatch in decades (Huu-ay-aht Councillor Irene Williams, personal communication, May 3, 2007). These modern examples demonstrate the continued relational importance of cedar.

4.4.2 Salmon

The five themes elaborated on in Section 4.4.1 above reveal the multiple meanings of cedar embedded in Huu-ay-aht culture. Salmon has similar attributes.

4.4.2.1 Daily use

Analogous with cedar, salmon has been present in the lives of Huu-ay-ahts and has been a staple of their diet throughout their history. Five species of salmon migrate through Huu-ay-aht territory, one species after another throughout the year, and each are harvested for consumption. Huu-ay-aht participants often used 'fish' as a surrogate name for salmon and other marine species; however, there is no contest that the five species of salmon, which return to the area year after year, are particularly important to Huu-ay-aht people. The cyclical nature of the salmon's life cycle, moving from rivers to oceans and back to rivers again is much the same as the traditional life cycle pattern of the Huu-ay-aht as they moved throughout their territory in rhythm with the seasons, always returning to the rivers during the salmon runs.

> *When I think about salmon, I think about how lucky we are to be where we are at... Out here we have 5 species of salmon: Spring, Coho, Sockeye, Pinks, everybody's favourite, Dog salmon.... And they all arrive at our shore, you know, one after the other. So, salmon is an extremely important part of our diet. Always has been and I hope always will be. (John, participant)*

In recent years, serious depletions in fish stocks as well as exposure to non-Indigenous foods have led to changes in the Huu-ay-aht diet. Regardless of these changes over time in terms of the type of species harvested, how much is harvested, and the number of people involved in the harvest, every participant spoke of the importance of salmon to Huu-ay-aht people.

> *[Salmon] is a staple of our life. (Lauren, participant)*

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[3] Nuu-chah-nulth 'big houses' are built as places of gathering for conducting important business and ceremonies.

> *[Salmon] is something we lived off back then and it's something we live off today. (Lynn, participant)*

4.4.2.2 Employment

Fishing has always been a way of life for Huu-ay-ahts. However, since the federal government imposed licensing regulations on Indigenous and non-Indigenous commercial fishing, the number of commercial fishers from Huu-ay-aht First Nation has been drastically reduced (from 65 licensees to 2 licensees) (Happynook, 2007). While there are only two remaining commercial fishers for the Nation, many members engage in non-commercial (sustenance) fishing and sport-fishing enterprises. Most notably, several Huu-ay-aht members are employed by the Nation's local aquaculture business (e.g clams, oysters), fish hatchery, and salmon habitat restoration projects.

> *It's our livelihood and it's our, it's my job and [salmon] is something that can always come back as long as you take care of [it]... So yeah, salmon is very important to me. (Craig, participant)*

4.4.2.3 Spirituality

Similar to cedar, when salmon are harvested, there are certain cultural protocols that should be followed to demonstrate respect for this special resource.

> *You know, in terms of the salmon, the first ones that come up the river you're supposed to eat the salmon, and bring all the bones back to the river so that the spirit of the salmon will live and they'll keep coming back to you at that place... our belief is that... they give themselves up to you because you need them, so that's an important thing that I will pass on to my kids. (George, participant)*

This belief that the salmon (and other species) give themselves to humans relates to the Huu-ay-aht creation stories regarding a common origin for and understanding between human and non-human beings.

4.4.2.4 Representation

The Huu-ay-ahts' marine diet, which is primarily salmon but also includes other species of fish and shellfish, represents a part of Huu-ay-aht identity.

> *After thousands and thousands of years of mainly a protein diet of fish and sea mammals and shell fish and all that, your body is genetically connected to those kinds of foods (John, participant)*

Salmon (and other traditional foods) plays a role in terms of how Huu-ay-aht represent themselves to each other and to others visiting their territory.

> *It is important that we continue to share whatever traditional foods that we have available to us and make sure that all of our people have access to those traditional foods... It has always been an important part of who we are as Huu-ay-aht and I think we need to hang onto that... Our people always talked about sharing. (John, participant)*

Salmon plays an important role in feeding people, other species, and the land. As such, salmon represents the health of an entire ecosystem.

> *The health that the salmon provides goes beyond Huu-ay-aht. It feeds the eagles. It feeds the birds. It feeds the bears. It feeds the land. It feeds the river. It does all those wonderful things. Salmon is extremely important to not only Huu-ay-aht but to all of the living things that live in our territory. (John, participant)*

4.4.2.5 Relationships

Participants commented on salmon being not only a regular part of their diet but also on its importance as a cultural activity that serves to bring families and the community together.

> *Every weekend we'd spend time at my grandparents' doing whatever chores that needed to be done. For example, if it was smoking fish time, all the family was there, aunts and uncles and all the nieces and nephews. And we all had jobs to do...Doing the firewood and there were always hundreds of people there eating... If it was a big thing, like the fish, we all had a job of what we had to do with it. You know? Helping hang it or doing the sticks for the fish and stuff like that. (Lynn, participant)*

As the key food source throughout the year and at important ceremonies, salmon and other sea foods play an important role in maintaining relationships between individuals and families as well as upholding hereditary systems of governance. Giving, receiving, and sharing food is an important cultural practice among Huu-ay-aht people.

> *I like to be able to get my own fish. I like doing that and I also like giving fish out... [to] relations, parents. (Geoffrey, participant)*
>
> *I give my fish away. I'll give it to my aunties or uncles... I feel good giving fish away. (Paul, participant)*

Characteristics of Indigenous distribution systems along the West Coast include property rights, environmental ethics, rules associated with inherited titles, public accountability, and a reciprocal exchange system (Trosper, 2003). Hereditary chiefs are responsible for the welfare and well being of the Nation's membership and this includes the distribution of traditional food (Huu-ay-aht First Nation, 2007a). Carrying out these responsibilities reflects the social structure and status of people in the community. Distributing food reinforces the role of the hereditary chief and fulfills obligations, responsibilities, interpersonal relationships, and expectations in the community. Sharing catches and feasting are not only important ways of demonstrating respect for the salmon runs but also ways of ensuring that future salmon runs are not threatened and, at the same time, that authority and respect towards the hereditary chief is established (Trosper, 2003).

> *We iced all [the fish that we caught] that day, and then I called [the hereditary chief] up, told him what we did, and he was quite happy. He said, well, just, just come on over. And I said, well, we'll come over to your place and we'll start filleting them, and you can*

> *call your people and tell them to come over and get fish. So we did that. (George, participant)*

The Huu-ay-aht leadership continues to provide fish for the entire membership as not every member has access to boats. For example, during fieldwork for this study in 2006 halibut was in season. The Huu-ay-aht Council chartered a commercial fishing boat to catch and distribute 14,000 pounds of fish to its members. Often these redistribution activities are all-day events that serve as important social gatherings and contribute to the community's sense of solidarity.

4.5 Discussion

4.5.1 Rethinking 'Resources'

The results of this study suggest that the *meaning* of key geographical concepts, including 'resources', has been too narrowly defined. The Huu-ay-aht identify cedar and salmon not only with the existing academic definition of natural resources *but also* with social-cultural practices *and* with spiritual meaning. This multifaceted meaning attributed to resources brings together two ideas currently circulating in geographic literature. First, there is growing recognition of the importance of how space/place and identity are conceptualized, particularly when infused with 'the political' (Allen, 2004; Amin, 2004; Massey, 2004). The general argument thus being that local nodes are actively engaged with globalization rather than being merely passive or resistant and therefore shape the nature of globalization in small but incremental ways (Massey, 2004; McDowell, 2004). For example, Huu-ay-aht First Nation has established a world-class hatchery to rehabilitate the salmon runs in their territory's waterways. Their reputation has resulted in visits from foreign resource managers to the hatchery to learn the Huu-ay-aht management system. Huu-ay-aht First Nation, as a local node, is actively engaged in the globalization through their hatchery and acquaculture enterprises but by introducing their management practices to others beyond Huu-ay-aht borders, they are shaping the nature of globalization. The present study extends the 'local acting on global' view by rethinking the definition of resources within the (ongoing) colonial discourse surrounding resource management in Canada (Harris, 2002; Peluso, Humphrey, & Fortmann, 1994; Rossiter & Wood, 2005). Second, this study contributes to a growing body of literature that suggests the existence of agency and influence coming from non-human entities acting on and within the human-nature network (Hayles, 1995; Head & Muir, 2006; Power, 2005; Whatmore, 2002; Wolch, Emel, & Wilbert, 2003). In fact, this paper is an attempt to link dialogue between scholars of Indigenous studies with those in geography who are exploring the idea of non-human agency and how this conceptualization has the potential to (re)shape the nature of environmental resource management in small but incremental ways.

4.5.1.1 Colonialism and Indigenous Resource 'Needs' in Canada

In Canada current resource management perspectives and practices are filtered through a colonial worldview (Berkes et al., 2000; Natcher, Davis, & Hickey, 2005; White, 2006). Therefore, rethinking geography's conventional definition of a resource alongside colonialism is apposite given that the idea of rethinking space/place and identity has its roots in postcolonial (and feminist) studies (Massey, 2004). Postcolonial studies contest dominant discourses and introduce alternative perspectives to the mainstream (Ashcroft, Griffiths, & Tiffin, 2000; Loomba, 1998; Young, 2003). Essentially, postcolonial theorists highlight the historical and continuing imbalance of power between colonizing and colonized peoples (Anderson, Domosh, Pile, & Thrift, 2003; Ashcroft et al., 2000). In doing so, practitioners examine the socially constructed roles of both groups, paying attention to the underlying principle of inequality thereby purposely politicizing it (Anderson et al., 2003; Chambers & Curti, 1996; Rattansi, 1997; Smith, 1999). When considering this study's interrogation of the meaning of resources within the specific context of Canada's colonial past and the enduring neo-colonial present (Miller, 2004), it is evident that unbalanced relationships of power continue to persist (Ashcroft et al., 2000; Pedynowski, 2003).

The literature on environmental perceptions regarding the landscape and its resources is already well-established (e.g. Berkes, 1999; Bertolas, 1998; Dake, 1992; Greider & Garkovich, 1994; Lewis & Sheppard, 2005; Soule & Lease, 1995). Conflicts between Indigenous peoples, industry, government, and environmentalists regarding competing views of natural resources have also become common-place (Nesbitt & Weiner, 2001). Those nearest the resources, typically Indigenous peoples (Wyatt, 2004), see them as a means of social reproduction and cultural survival, which in turn impacts the way they use and understand them (Mabee & Hoberg, 2006; Natcher et al., 2005; Richmond, Elliott, Matthews, & Elliott, 2005). Huu-ay-aht people have been inherently connected to their cultural-natural landscape for thousands of years. Their embeddedness in one place and their relationship with cedar and salmon since the beginning of their history, has led to such a connection that cannot easily be separated (Atleo, 2004; Booth, 2003; Windsor & McVey, 2005). Taking this connection into consideration creates an opportunity to re-conceptualize the notion of 'need' in an Indigenous cultural context. In doing so, we can expand our academic understanding of the human-nature dyad (Whatmore, 2002).

Realistically Huu-ay-ahts' daily usage of cedar and salmon has changed over time. This is particularly the case for cedar in terms of how housing and transportation has changed over time. Huu-ay-aht people are not living in traditional cedar big houses, nor are they travelling by cedar canoes. Huu-ay-ahts have also expanded their traditional marine-based diet to include store-bought food. From an outside perspective, the observable, tangible, and *original* uses of these resources have significantly diminished. This begs the question of whether Huu-ay-ahts really *need* cedar and salmon, which is important in the current context of governmental allocations to First Nations for 'cultural uses'.

In response, it is clear that these resources have multiple layers of meaning beyond the conventional definition of 'natural resources' and are still very much a part of this First Nation's cultural identity and spiritual and social practices. While their access to cedar and salmon has dramatically changed due to colonial policies and practices (e.g. over-fishing, clear-cutting, government-regulated allocations), their relationship to these species has not been significantly influenced by colonialism. These resources have not lost their cultural importance or spiritual meaning; access to cedar and salmon are still paramount to Huu-ay-aht people. However, governmental control over allocations of cedar and salmon to Huu-ay-aht people in effect curtail Huu-ay-aht autonomy. As such, documenting the importance and meaning that Huu-ay-aht attach to both of these resources, as this study does, is an important process in today's political and economic climate given that the Huu-ay-ahts are finalizing a Treaty with the provincial and federal governments. It is expected that their Treaty will include a number of agreements concerning (for example) self-governance provisions, a land package, land use planning protocols, law-making authority, and rights to resources (BC Ministry of Aboriginal Relations and Reconciliation, 2007). Huu-ay-ahts will thus be in a position to not only autonomously determine their relationship with cedar and salmon where they can 'control' access and use of both but also actively engage with a global movement towards (re)shaping the character of nature and resources in a small but meaningful way.

4.5.1.2 Resources are Non-Human Actors

While the Western settler population in Canada has attempted to dismiss Indigenous conceptions of the environment, Indigenous perspectives of spaces/places are contributing to a (re)newed and relational way of seeing non-human actors at the human-nature interface (e.g. Jackson, 2006; Soper, 1995; Whatmore, 2002; Whatmore, 2006). Consider the concept of 'keystone species'. Ecologists reason that certain species, known as keystone species, are exceptionally important to the ecosystems in which they live as compared to other species (Helfield & Naiman, 2006). On the West Coast, salmon have been identified as a 'keystone' species because salmon return to the same spawning grounds during their lifecycle; a healthy salmon population indicates a healthy watershed (Helfield & Naiman, 2006; House, 1999). As such Western scientists have determined that salmon feed the forests along the West Coast (Dearden & Mitchell, 2005; Drake, Naiman, & Bechtold, 2006; Drake, Smith, & Naiman, 2005; Helfield & Naiman, 2006; Wilkinson, Hocking, & Reimchen, 2005). Salmon carcasses are rich in nitrogen and as they decay along shorelines the nitrogen is taken up in the soil, which in turn is utilized by the trees in the area. Cedar trees near salmon-bearing streams are richer in nitrogen than trees further away (Drake et al., 2006). In return, the trees along the rivers act as filters for the water and the woody debris from decaying cedar creates the conditions necessary for successful spawning (Sheer & Steel, 2006). Watersheds with well-forested valleys are thus necessary for healthy salmon habitat (Sheer & Steel, 2006). This reciprocal relationship exemplifies the existence of agency and influence coming from non-human entities, which act on and within the human-nature network (Hayles, 1995; Head & Muir, 2006). The human aspect of the network enters the equation with respect to how humans alter the cedar-salmon landscape through (for example) clear-cut logging and over-fishing.

What is especially interesting is an emerging discourse in the ecological literature that suggests certain human population groups, notably Indigenous peoples on the West Coast, have served as 'keystone species' through their monitoring of the ecosystem and management of local resources (Trosper, 2003; Turner et al., 2000). Granted the Huu-ay-aht have long recognized the complex and fragile relationship between salmon, cedar, and themselves identifying that if one is out of balance, it can impact the whole system (Chief Councillor Robert Dennis, personal communication, February 3, 2006). This knowledge stems from their worldview, Hishuk Tsawak, founded on the creation and maintenance of balanced human and non-human relationships (Atleo, 2004; Happynook, 2000b). It is this worldview regarding the meaning *as well as* the agency of cedar and salmon to Huu-ay-aht people that pulls apart the traditional Western definition of natural resources and complicates it by embedding social, cultural, and spiritual meaning.

In geography, humans and nature have traditionally been considered independent of each other (Nesbitt & Weiner, 2001; Nightingale, 2003; Power, 2005; Toupal, 2003). However, conservation ecologists are calling for a 'long view' of science, that integrates disciplines over decades, centuries, and millennia (Gunderson & Folke, 2003). The goal is to fill the gap between the environmental science and policy of the human-nature system over broad scales of time and space (Gunderson & Folke, 2003). This is particularly well-suited in an Indigenous context as their Indigenous Knowledge is the intellectual product of direct observation and experience passed from generation to generation through oral tradition (Berkes, 1999). Indigenous peoples in Canada, with such prolonged existence in their traditional territories, are as much a part of the landscape as the mountains, waterways, and resources (Toupal, 2003). Over thousands of years, they have culturally and spiritually inscribed the landscape, including the resources, transforming them from a limited definition of natural resources to a multi-layered characterization (Oetelaar & Meyer, 2006). At the same time, as this study indicates, non-human entities have inscribed themselves onto Indigenous peoples.

Alongside the literature in geography concerning non-human agency there is a body of literature in Indigenous studies that considers the same (e.g. Bird, 1990; Nadasdy, 2007; Willerslev, 2004). For example, many Indigenous hunters understand hunting as an agreement or exchange between hunters and non-human beings (Nadasdy, 2007). As Nuu-chah-nulth peoples, the Huu-ay-aht also assert this understanding through their worldview of interconnectedness such that non-human beings willingly give themselves to the Huu-ay-aht based on a relationship of respect for and responsibility to each other (Atleo, 2004). Following on the discussion in the previous section regarding their upcoming Treaty, the Huu-ay-aht are essentially negotiating that Treaty for themselves *and* on behalf of the non-human beings (e.g. cedar and salmon) in their traditional territory. Without the influence of Western (colonial) resource management regimes, cedar and salmon would also be in a position to autonomously determine their relationship with the Huu-ay-aht (Bird, 1990; Power, 2005; Whatmore, 2002).

4.6 Conclusion

The widely held image (Gregory, 1994) of BC is based on a powerful public discourse that sees it as a landscape of vast wilderness resources and thus culturally vacant (Harris, 2002; Larsen, 2004). Interestingly, geographers have had a significant role in creating this image through their (re)mapping of the landscape from a position that reinforced the interests of those in power (Haraway, 1991; Harley, 1989). In essence, the 'official' history of Canada has omitted (thereby negating) the rich *culturally-inscribed* landscape of First Nations peoples (Barnes, 2007). However, the power to define (Foucault, 1980; Therborn, 1980) resources has important implications for Indigenous peoples in BC (Braun, 2002).

The aim of this paper has been to argue for a more holistic approach to thinking about resources instead of limiting our understanding to a western capitalist worldview and definition. In this study, the Huu-ay-aht demonstrate a multifaceted understanding of resources, an example of how local nodes can influence a developing global consciousness that the environment is more than just a set of resources for human exploitation. Massey (2004) issues a caveat that such an undertaking can be fraught with emotion for the very fact that it is political; this work is also intended to create a similar response. Perhaps more so because in this case, the political - and here we are speaking of colonialism - is underscored, as the current Canadian colonial context is inherently and deeply embedded with emotion (Battiste, 2000; Green, 1995; Schroeder, St Martin, & Albert, 2006).

Based on the findings from this study regarding Huu-ay-aht perspectives concerning cedar and salmon, our understanding of natural resources may be redefined. The multiple meanings that Huu-ay-aht attach to cedar and salmon begin to move forward the current narrow definition of a resource. It follows that geographers (and others) have a responsibility to continually critique current 'society and natural resources' discourse in the context of geography's rooted-ness in colonialism (Massey, 2004). This is particularly important in relation to understanding land and resource disputes between the Western settler population and the Indigenous population in Canada.

In practical terms, until such time as Treaties are ratified, Canada and its provinces have a fiduciary responsibility and a legal duty to consult with First Nations regarding resource extraction and development on traditional lands (Hurley, 2002). The Government of BC is now trying to establish a 'new relationship' with First Nations in the province (British Columbia, 2001b). One of the province's major goals is 'to ensure that lands and resources are managed in accordance with First Nations' laws, knowledge and values and that resource development is carried out in a sustainable manner including the primary responsibility of preserving healthy lands, resources, and ecosystems for present and future generations' (British Columbia, 2001a, p. 2). Understanding the importance and meaning that First Nations' attribute to natural resources is the groundwork needed to effectively engage in this 'new relationship'. This case study makes a contribution to that end.

4.7 Reference List

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Chapter 5:

CONCLUSIONS

5.1 Introduction

This dissertation has addressed themes of power, resilience, place, and social change. These themes are complicated on their own and when they are brought together, as they have been in this study the further complicate each other. The way I make sense of these themes in terms of how they relate to the findings of this study is through metaphor. Metaphors can be used to represent ideas. When I think of power, resilience, and place, the image of a living sponge springs to mind. A sponge is malleable. Sponges can be shaped and manipulated. Power is malleable. Power can be used to influence and shape outcomes. A sponge is resilient. A sponge is flexible and has the capacity for absorbency. Individuals and communities (human and non-human) can be resilient. They have the capacity for resilience by absorbing adverse conditions and not only recovering but become *more* capable in their surroundings. A sponge is porous. Sponges permit movement through it. Place is porous. Places can be crossed, breached, infiltrated, and penetrated. A sponge is a living organism. Sponges change over time. Who holds power, what the determining factors are concerning the capacity for resilience, and where adversity takes place also changes over time. And as this study shows, this can be said to be true for Huu-ay-aht First Nation.

5.2 Goal of the Research

The research for this dissertation used a community-based participatory design (Chapter 2) to explore the resilience of one First Nation's worldview (Chapter 3) in the context of their multi-textured relationship to cedar and salmon (Chapter 4). Through this case study, an understanding of the importance of Indigenous social and physical location regarding the power and buoyancy of a worldview and how it is applied to the human-nature interface came to light. Taken together, Chapters 2, 3, and 4 contribute to an ongoing effort to explore issues of power in Indigenous places given the ongoing colonial policies and practices in Canada. In Chapter 2 the focus on power at the micro-scale was concerned with balancing the relationship between the participants and the First Nation as a whole and myself as the researcher. In Chapter 3 an examination of power at the macro-scale drew attention to the interplay of competing worldviews. At this level of analysis, physical and social location influenced the role that power played in determining the strength and resilience of the Huu-ay-aht worldview. In Chapter 4 the focus on power was at the meso-scale through an exploration of Huu-ay-aht perceptions of how their worldview frames 'resources' in contrast to the conventional definition based on Western geographic traditions.

5.3 Contributions

The chapters in this dissertation make methodological, theoretical, and substantive contributions. Methodologically, this research evaluated the applicability of using Photovoice with a First Nation to determine its appropriateness culturally as a qualitative approach for investigating issues of significance to the community. The theoretical contribution involved a critical examination of the role of power and place at multiple scales. The papers in this dissertation also expand the literature on the strength and resilience of marginalized Indigenous worldviews given the competition of hegemonic worldviews surrounding them. Substantively, the dissertation recorded Indigenous perspectives on culturally-significant non-human beings. The outcome, a photographic and written record, is intended to equip Huu-ay-aht First Nation's leadership with resources to reinforce their land-use planning and decision-making processes.

5.3.1 Methodological Contributions

Photographic technology emerged in the 19th century at the height of European expansion and domination (Schwartz & Ryan, 2003). Photography expanded the colonizers' ability to observe, collect, classify, and control their colonies (Schwartz & Ryan, 2003). As a result the (Western) geographic imagination experienced a significant transformation through space and time compression (Gregory, 1994; Schwartz & Ryan, 2003). In the tradition of postcolonial studies, the colonized use imperial tools to 'talk back' to the empire in an effort to create positive social change (Ashcroft, Griffiths, & Tiffin, 2002). In this study, photography was employed to create such change both within the First Nation's borders and as a way of communicating their issues and priorities to powerful 'others' beyond their Hahoothlee.

This study's major methodological contribution involved the testing and evaluation of Photovoice as a CBPR method of data collection and analysis. Photovoice has been employed with vulnerable populations primarily in the health promotion literature; literature citing this technique with Indigenous populations in North America is only just beginning to surface (e.g. Moffitt & Vollman, 2004). What this study found was that modifying certain aspects of Photovoice was necessary in order to effectively balance power and establish trust between the researcher and the researched, develop a sense of community ownership, build community capacity, and address cultural preferences. The major modification, building an iterative process into the Photovoice technique, was essential to the project's success. The results suggest that a modified version of Photovoice was an appropriate methodological tool for engaging in a community-based participatory research project with this First Nation. Further testing of Photovoice with other Indigenous groups will ascertain the usefulness of this methodological approach for CBPR practitioners.

Photography can also be useful in 'gaining orientation' in research (Gold, 2004). For an 'outside' researcher, taking pictures at the start of a field study can aid in developing awareness of personal biases (Gold, 2004). Published accounts of Photovoice have not included details of researchers' own use of photography to illustrate how they themselves make sense of the issues under study. I began taking pictures from the outset of this study to document my first impressions of 'going in' to the community and seeing their Hahoothlee for the first time from my position as a Caucasian female academic (Foucault, 1980; Gregory, 1994; Said, 1978). I became a participant of the research by undergoing the Photovoice interviewing exercise with the two community researchers and in doing so differences in our worldviews were revealed. For example, I had taken a photograph of an old school bus that had been converted into a home on one of the Huu-ay-aht reserves. When the community researchers asked me to describe my photograph, my response was that I saw poverty. From the same picture the community researchers saw home and freedom. This exercise helped me, as a researcher, to confront my biases, to uncover my worldview, and to gain insight into their way of seeing the world.

Two equally significant lessons were learned from Photovoice as a reflexive process. First, it became clear that giving participants a 'voice' through photography and storytelling, as Photovoice does, allows others to understand the photographer's message. This is unlike the goals of research where participants' photographs are the subject of the researcher's analysis and interpretation (MacKay & Couldwell, 2004) or photographs taken by the researcher which are then used to elicit participant narratives (Clark-Ibanez, 2004). Second, it illustrated the importance of engaging in insider/outsider research in cross-cultural contexts in order to gain, compare, and contrast perspectives especially during data collection and analysis (Castleden & Kurszewski, 2000; Clingerman, 2007; Gibson, 2006).

5.3.2 Theoretical Contributions

Theoretically, this research contributes to our scholarly understanding of how power and place interact on multiple scales. Examining the Huu-ay-aht worldview of Hishuk Tsawak in the context of local forestry practices reveals the interplay of physical and social location in terms of the way in which the power and resiliency of Hishuk Tsawak are determined. While Hishuk Tsawak is practiced on practical and spiritual levels, disruptions resulting from colonial policies and practices have created waves of physical and spiritual imbalance within the First Nation's Hahoothlee. Further, the tensions that exist between dominant and marginalized worldviews impact what is accepted as 'true'. In this case, the Indigenous Knowledge garnered through the Huu-ay-aht worldview has led to long-term sense-making by members of Huu-ay-aht First Nation of human and non-human interconnectedness that are only now being recognized by those (with power) outside the First Nation's borders, challenging the dominant perception of how resources are defined and understood.

By exploring the meaning and importance that the Huu-ay-aht place on cedar and salmon, it is clear that they have imbued both not only with the existing (Western) definition of natural resources *but also* with social-cultural practices *and* with spiritual meaning. These cultural icons then produce and reproduce Huu-ay-aht identity. The Huu-ay-ahts' multifaceted understanding of cedar and salmon is an example of how pockets of local perceptions can influence a global consciousness regarding the environment as being more than just available for human exploitation. Based on the findings from this study, the Western theoretical understanding of natural resources is stretched. Consequently, geographers (and others) have a responsibility to continually re-examine dominant worldviews on the human-nature interface, particularly in the light of geography's historical connection to Western colonialism. Ultimately forestry policies and practices in British Columbia, which have led to instability in the ecosystem, are not immune to the tensions that exist between competing worldviews. While there is currently a dominant worldview of Western capitalism in place, ideas from the edges continually work towards transforming our perspectives. Other worldviews, such as spiritually-embedded

Indigenous worldviews, have the potential to contribute to the amelioration of our total environment.

5.3.3 Substantive Contributions

This research contributes in a substantial way towards developing an understanding of the importance and meaning that Indigenous peoples attribute to natural resources, the goal of which is to inform current resource management policies and practices. This understanding will be of particular use to Huu-ay-aht First Nation as it is currently engaged in the final stages of a Treaty with the Governments of Canada and British Columbia. If a Treaty is agreed to it is meant to give Huu-ay-ahts autonomy over such things as land use planning, law-making authority, and rights to resources. Most important concerning the primary rationale for this study, the Huu-ay-aht Council has already begun to draw on the findings from this research to begin planning land use protocols. From my perspective then, the research partnership with Huu-ay-aht First Nation has been successful in terms of addressing issues that were important and meaningful to them.

5.4 Study Limitations

For every research design there are limitations and case study research is no exception. As such there were four main limitations associated with this study. First, although there is a common desire to generalize findings to other situations, case study research is not intended to do so. Second, case study research requires the researcher to establish often arbitrary temporal and spatial boundaries. Third, the ideographic nature of not only the qualitative interviews but also the photography component of the project presents unique limitations. Finally, there are limits of what to include in the dissertation and the researcher is ultimately responsible for making those subjective decisions.

Case study research does not lend itself to generalization in other contexts (Creswell, 1998) however, the advantages to doing case study research include depth and detail in the inquiry, flexibility for the researcher and the questions explored in the study, and an emphasis on context-specificity (Meiher & Pugh, 1986; Merriam, 1988; Stake, 1994; Yin, 1994). In this study, the advantage of focusing on one particular First Nation allowed for more analytical depth and exploration of the research question. While the results are not necessarily generalizable to other communities (nor were they intended to be), the results of a trustworthy qualitative case study are transferable to other similar situations by using dependable and confirmable methods of data collection and analysis (Baxter & Eyles, 1997). This study employed pilot-tests of the interviews, member-checking of the interview transcripts to confirm accuracy, prolonged immersion in the fieldwork to establish rapport and confirm interpretations, and an Advisory Committee to substantiate the findings (Baxter & Eyles, 1997).

A particular challenge for case study researchers is gaining access and developing the trust of participants after a case has been selected for study (Merriam, 1988; Stake, 1994; Yin, 1994). This process can take considerable time and a researcher must be cognizant of this limitation when endeavouring to do case study research. However, in CBPR the case is typically identified and designed in collaboration with the community partner and therefore trust-building begins to develop from the outset. While the initial relationship-building period requires a substantial commitment, it is a necessary and desirable process that also creates an atmosphere of co-ownership of the research. In this study the case project emerged out of the Huu-ay-ahts' concern for their future, one that would include the protection and availability of cedar and salmon. The project was developed in consultation with the First Nation's elected Council and received their unanimous support from the start.

Once a case has been selected, and in this study once permission to conduct the case had been granted, the main challenge to the researcher is to determine the boundaries of the case (Creswell, 1998). What is meant by boundaries is that timelines, events, and processes that are often impacted by academic requirements and funding can place constraints on the case study. Because there is often no pre-established beginning or ending, the researcher must make subjective decisions around these boundaries (Creswell, 1998). In this research these boundary decisions were aided by the guidance offered from members of the Council-appointed Advisory Committee.

Due to the ideographic nature of qualitative research, there are also limits to what participants included in their interviews, either by their own choice (Foucault, 1980; Gregory, 1994; Said, 1978) or by the limitations of the interviewer's capabilities to draw out participants' knowledge and experience (Denzin & Lincoln, 2005). This limitation can be further exacerbated by the use of participant-employed photography as was employed in this case study. Although the major limitations encountered with regard to using Photovoice for this study were addressed in Chapter Two, it is worth repeating here that there are limits to what is observable. What was not photographed and subsequently not discussed in the Photovoice interviews is as important to consider as what was present in the collection of photographic representations (Bondi et al., 2002; Rose, 1993). Developing a general line of questions at the start of each interview and creating an opportunity to comment on issues not covered by the photographs allowed participants to discuss their concerns about, for example, the discernible consequences of the residential school experience for many Indigenous peoples (e.g. parenting difficulties, sexual health, physical violence) (Brasfield, 2001; Fournier & Crey, 1997; Haig-Brown, 1988).

Lastly, in qualitative research one must interpret and synthesize hundreds and sometimes thousands of pages of text. Eventually the question becomes one of how to de-limit the findings. While there are limits to what is included in any dissertation, undertaking a papers-format dissertation rather than a traditional dissertation has forced the following response to this difficult question during the analysis and writing stages of this project. The choice of what to include in this dissertation directly correlated to the premises of CBPR, to engage in research for social change (Kirby & McKenna, 1989). The findings from Chapter 2, which evaluated the utility of Photovoice as a CBPR research method involving First Nations, has generated continued interest within Huu-ay-aht First Nation and among other First Nations who have begun to hear about the Huu-ay-aht experience. The conclusions reached in Chapter 3 may lend additional strength - through the interpretations of a powerful 'other' (academia) - to Huu-ay-aht First Nation's goal of achieving self-governing autonomy. Finally, the discussion in Chapter 4 concerning the importance and meaning of cedar and salmon to Huu-ay-aht people responds to the original goals of working towards protecting cedar, salmon, and Huu-ay-aht people as outlined at the Huu-ay-aht Cedar Symposium two years ago.

5.5 Future Directions

Future research could take a number of directions that would build on the findings and conclusions reached in this study, four of which are discussed here. First, conducting a longitudinal study to document and make sense of Huu-ay-aht perspectives concerning cedar and salmon over time would further contribute to a theoretical understanding of worldview resiliency or change. Second, engaging in a cross-case comparative analysis using Photovoice with other First Nations would contribute to our methodological understanding of the transferability of this particular method. Third, using the same approach to include non-Indigenous perspectives, particularly from government and industry, would help create a multi-dimensional understanding of disputes concerning forestry issues on Vancouver Island. Fourth, carrying out an in-depth media analysis would allow an exploration of how the local population as a whole shapes their socially constructed views about forestry issues in their community.

Taking a 'long view' of Huu-ay-aht resource perspectives would give insight into perceptual changes over time. Conducting a similar study every 5-10 years with the same cohort of participants would reveal important knowledge regarding the strength and resilience of the Huu-ay-aht worldview. At a time when Treaties in BC are only beginning to be settled, such a study would also document the ways in which the Huu-ay-aht have proceeded with autonomous management of their land and resources after Treaty (assuming it is ratified) through which other First Nations may learn from the Huu-ay-aht experience. At the same time, the Huu-ay-aht would gain important data for their Nation's archives. Including additional Huu-ay-aht perspectives, particularly a youth cohort and an off-reserve cohort, would also broaden academic and community understandings of pressing issues among the Huu-ay-aht membership.

Conducting further CBPR studies that employ the modified version of Photovoice to explore Indigenous resource-use issues would address both methodological and theoretical aspects of scholarly inquiry. It would create opportunities for cross-case analysis that would respond to the question of whether Photovoice is transferable to other similar situations. It would also expand the emerging literature on Indigenous resource-use perspectives in a responsible, academically-rigorous manner by sharing power, building trust, and creating a sense of community ownership over the research. For this particular area of future research it would be constructive to investigate other Nuu-chah-nulth First Nations perspectives for correlations within a particular population as well as other Indigenous perspectives for correlations beyond Nuu-chah-nulth borders regarding resource-use perspectives. Finally, such work, as was demonstrated in this project, would contribute to the growing trend to build capacity in Indigenous populations to do their own research (Corbie-Smith, Moody-Ayers, & Thrasher, 2004).

Because the focus of this particular case study was on the meanings Indigenous peoples attribute to particular 'resources', it would be valuable to conduct similar studies with government and industry in BC to gain a three-sided understanding of the issues surrounding resource management. At a time when the BC government is attempting to establish a 'new relationship' with First Nations (British Columbia, 2001) and there are efforts to engage in more collaborative co-management practices and joint ventures between industry and First Nations (Natcher, Davis, & Hickey, 2005), a panoramic view may offer some resolution to current land-use conflicts. Given the collective governmental and industrial paradigm shifts in working *with* instead of *without* First Nations, it would be timely to explore individual perspectives to determine intersections and common ground and to apply these understandings to current policy on resource management.

A longitudinal comparative print media analysis involving local newspapers would also build on the notion of creating a panoramic view in two ways. Not only would intellectual insights into newspaper coverage of changes in resource policy and practices over time emerge but also how the media has influenced the general public's socially constructed views of resources industries in the area would come to light (Wakefield & Elliot, 2003). Two newspapers targeting different audiences would be appropriate for analysis: (1) the Nuu-chah-nulth 'Ha-Shilth-Sa', which has been covering issues and events that impact or involve the Nuu-chah-nulth territory and its people since 1974; and (2) the 'Alberni Valley Times', a subsidiary of the Canwest Global Communications Corporation, which has been in circulation since 1967. A third independent internet-based newspaper, 'the Westcoaster', owned and operated by and for Alberni-Clayoquot residents since 2005 would also provide additional insight into how a third segment of the local population currently makes sense of resource management issues in the region. Such an analysis would undoubtedly illustrate how initial transgressions make way for long-term transformations in worldviews and subsequent practical applications regarding the contested BC landscape and the power to define it.

On a final note, the Huu-ay-aht leadership has also suggested ways to build on the results of this study by undertaking a detailed investigation of the role the Ha'wiih (hereditary chiefs) serve in terms of current environment and health issues in the Hahoothlee (Huu-ay-aht First Nation, 2007). The Huu-ay-aht began to conceptualize this program of research by hosting the Cedar Symposium in 2005 and subsequently partnering with me on this study. Since then, they have also established a Cedar Working Group and are developing ideas of their own to implement their traditional roles and values in current resource management practices.

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Epilogue: Everything happens for a reason…

'Everything happens for a reason'. I say this to my friends and my friends say this to me when we talk about events that have a profound effect on our lives. How I came to work with Huu-ay-aht First Nation on the west coast of Vancouver Island on a research project regarding environment and health issues is a bit of a mystery in the cosmic sense but then 'everything happens for a reason' doesn't it? Of course, there is an audit trail to demarcate how I made first contact. There are short versions and long versions and still longer versions to the story and I have told them all - one of which came out in this paper. These stories have become a part of me as has this 'research project'. This multi-year experience in my life's journey was more than just a research project to fulfill the partial requirements for a PhD in the Department of Earth and Atmospheric Sciences at the University of Alberta. It was a transformational experience. I didn't just do this research project as a training exercise to refine my skills as a social scientist. I didn't just do this research project to answer a research question. I didn't just do this research project to create something of use to Huu-ay-aht First Nation. I did this research to learn more about myself as a social scientist, as an advocate, as a mother, as a wife, as a human being.

In the concluding chapter of this dissertation, I referred to a limitation of case study research being one of establishing temporal and spatial boundaries. As I was approaching the end of my six months in Ana'cla, my supervisor mentioned that I should start thinking of my 'exit' strategy. This was a respected senior colleague and so I stifled laughter at the ridiculousness of such a thought - it sounded so sanitary and clinical - and at the ludicrousness of what I interpreted as her suggestion that I begin thinking about how to sever my relationship with not just research participants but my new friends in Ana'cla simply because the data had been collected. Her comment, however, was made in a caring manner, and it made me think deeply about research, what it means to me, why I do it, and how I affect and become affected by research experiences.

I turn to a dream I had to make sense of how I came to work with Huu-ay-aht First Nation and what research means to me. But are dreams important in research? Well, it depends who you ask. Leanne Simpson, an Anishinaabe-Scottish scholar would argue that dreams are tremendously significant in research (Simpson 1999). I am inclined to agree. A couple of months after I completed the fieldwork in Ana'cla, I sent an email to one of my Community Advisory Committee members:

> *Hi Jane, I hope you had a good weekend with plenty of sunshine! And I hope you don't think this is too weird but I thought I would share a dream I had two nights ago. I dreamt about Spencer. We were at the House of Huu-ay-aht and there were lots of people there. He was asking me where I had been and that I had been gone too long. There was more to the dream but the essence of it gave me a warm, fuzzy feeling when I woke up. I never actually spent much time at [Ta'yii Ha'wiih Tliishin (head chief)] Spencer's house visiting - except that one time with Dempsey, which was really awesome - so I thought it was interesting and significant*

> *that he was in my dream. I guess what I am saying is that I pay attention to my dreams and I wondered if you (my cherished CAC member) had any thoughts about it... Gee I hope you don't think I am a total weirdo! Heather*

Jane replied later that day:

> *Hey Heather, I do pay attention to dreams. I have a dream book at home which I use quite a lot. If I remember I will look and see what your dream meant if I could find a way of interpreting what the dream is I will get back to you tomorrow. Jane*

A few days later, Jane got back to me about that dream:

> *Hi Heather, just wanted to say hello, and to tell you I just got back from Bamfield. Do you remember the pictures I took at the bridge there, well you could see how much logging they have done. I will take pictures with my camera and send you copies. And I keep forgetting to bring my dream book to work. But one thing that sticks in my mind from what I read is that you have found a place where you belong. Hope that makes your day. Talk to you later. Jane*

Her reply did much more than 'just make my day'. The way I see it, the dream symbolized two things for me and I return to 'everything happens for a reason' to explain. First, her reply had a profound effect on me primarily because I never felt sure where I stood with Jane. At times I thought we got along really well, at other times I could sense that she was frustrated with me and other members of the research team, and at still other times she was very direct with me about her frustration. Her telling me that I found a place where I belong made me feel that where I stood with Jane was at a place of true friendship: a friendship where we could be honest with each other, brutally honest in a caring way, and that sometimes what we don't want to hear still must be said but despite any feelings of hurt, the friendship would go on. Second, it answered the question that I continually asked throughout this study 'why am I and how can I, a non-Indigenous person, conduct this research with Huu-ay-aht First Nation?' It is actually very hard to simply state here 'because I was accepted and invited to do so' for fear that it comes across as arrogant. But I think it is important that, with great honour and respect, I accept their acceptance.

I never did keep a copy of my responding email to Jane, but months later I sent another email to her about my dream - we had been emailing each other back and forth with bits of news and inspirational messages ever since I left Ana'cla - and I wanted to her to know how she did make my day with her perspective on the dream:

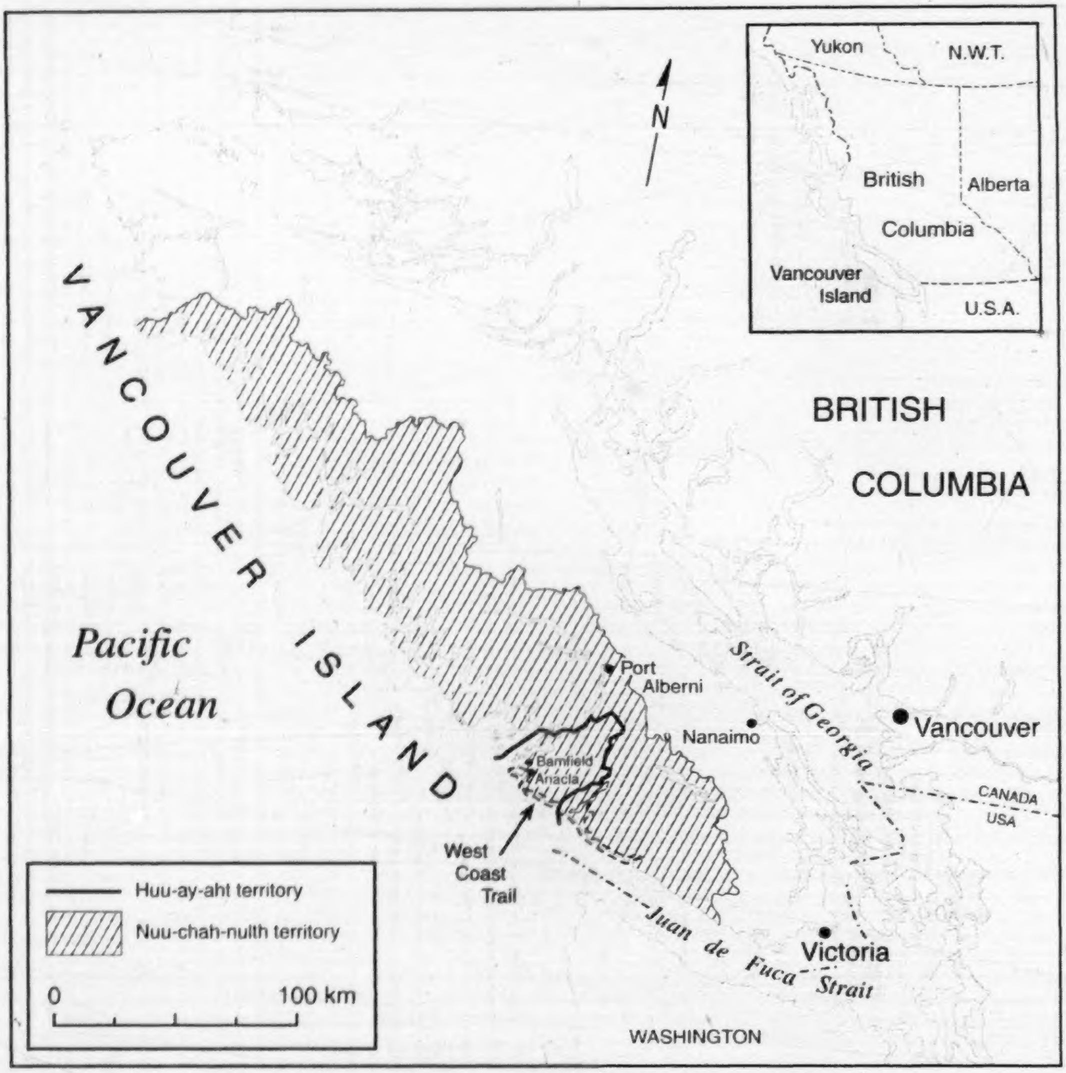
> *Jane... I was also thinking about that dream I had - remember about 'coming home'? I've laid awake thinking about it all this week and I just thought I'd let you know it's been on my mind. Your interpretation of it was really very special... Heather*

Some readers might ask themselves ‘so what?’ and I find it difficult to come up with my own words to explain... so I turn to the words of classical author and poet, Emily Bronte:

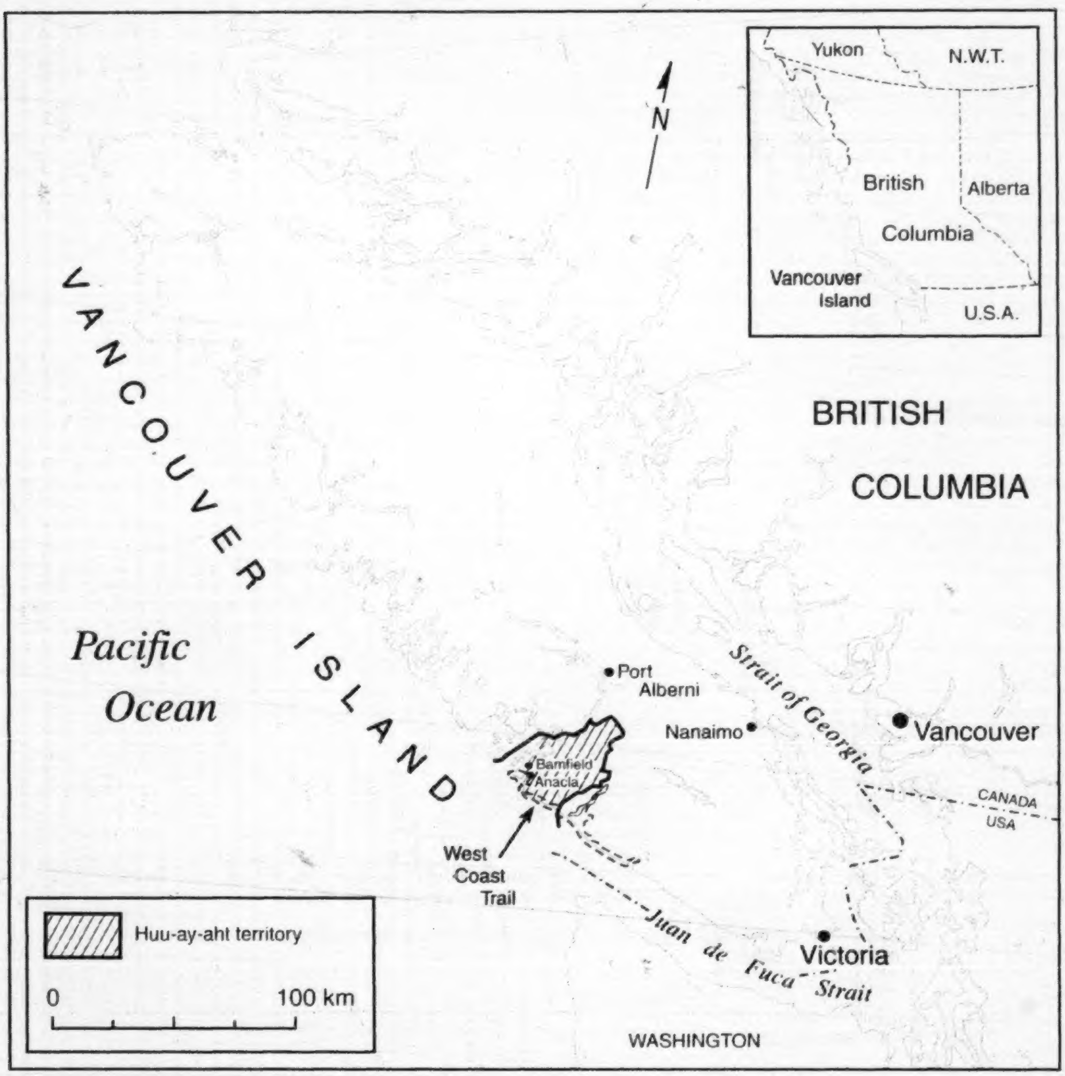
> *I've dreamt in my life dreams that have stayed with me ever after, and changed my ideas; they've gone through and through me, like wine through water, and altered the colour of my mind.*

This research experience will stay with me ever-after and change the way I see the world. To the Huu-ay-aht who have touched my life: Klecko, Klecko.

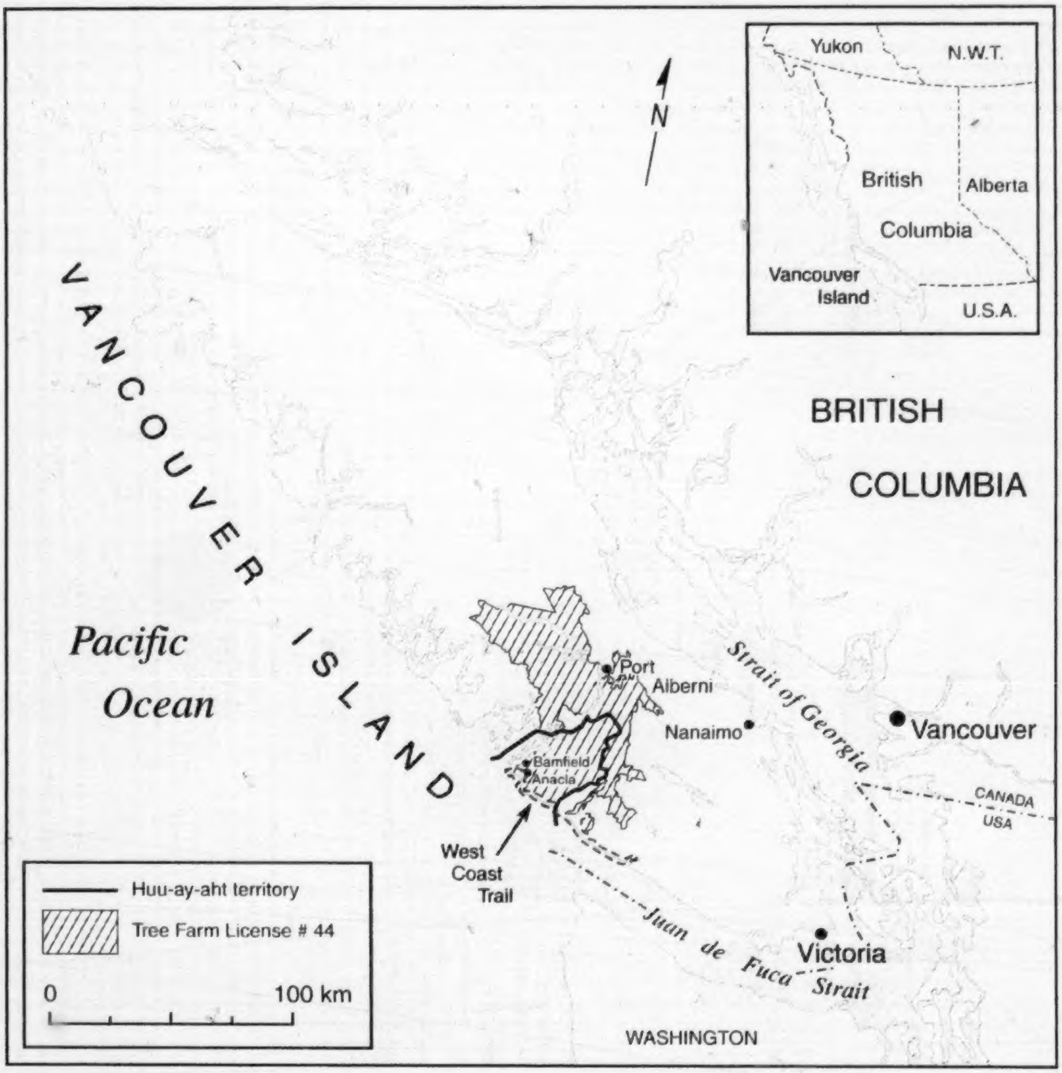
Appendix 1: Map of Nuu-chah-nulth Territory


Yukon
N.W.T.
British
Columbia
Alberta
Vancouver Island
U.S.A.
N
BRITISH
COLUMBIA
VANCOUVER ISLAND
Pacific Ocean
Port Alberni
Nanaimo
Strait of Georgia
Vancouver
CANADA
USA
Bamfield
Anacla
West Coast Trail
Juan de Fuca Strait
Victoria
WASHINGTON
Huu-ay-aht territory
Nuu-chah-nulth territory
0
100 km

Appendix 2: Map of Huu-ay-aht First Nation


Yukon
N.W.T.
British Columbia
Alberta
Vancouver Island
U.S.A.
N
VANCOUVER ISLAND
BRITISH COLUMBIA
Pacific Ocean
Port Alberni
Nanaimo
Strait of Georgia
Vancouver
Bamfield
Anacla
CANADA
USA
West Coast Trail
Juan de Fuca Strait
Victoria
WASHINGTON
Huu-ay-aht territory
0
100 km

Appendix 3: Map of Tree Farm License #44 overlapping Huu-ay-aht First Nation


Yukon
N.W.T.
British Columbia
Alberta
Vancouver Island
U.S.A.
N
BRITISH COLUMBIA
VANCOUVER ISLAND
Pacific Ocean
Port Alberni
Nanaimo
Strait of Georgia
Vancouver
CANADA
USA
Bamfield
Anacla
West Coast Trail
Juan de Fuca Strait
Victoria
WASHINGTON
Huu-ay-aht territory
Tree Farm License # 44
0
100 km

Appendix 4: Recruitment Information Sheet

INFORMATION SHEET for the University of Alberta Research Project:

As Sacred as Cedar and Salmon: Pict/Oral Representations of Risk from Huu-ay-aht First Nation

PURPOSE: This study seeks to identify, document, and understand Huu-ay-aht First Nation environmental and health risk perspectives. At the conclusion of the study, a visual and written record of Huu-ay-aht perspectives regarding environmental and health risks brought about by resource development will be created and retained by Huu-ay-aht First Nation. This study is being conducted by Heather Castleden in partial fulfillment of the requirements for her degree. Heather is a PhD student at the University of Alberta under the guidance of Dr. Theresa Garvin at the University of Alberta.

YOUR PARTICIPATION: In this study, Heather is using a new and interesting way to do research called "PhotoVoice". Your voluntary participation has four parts. **First**, you will receive a short training session on what the project entails and what is expected of you as a participant. **Second**, you will be provided with a disposable camera and asked to take photographs of places and activities that represent environmental and health risk to you as an individual or to the Huu-ay-aht as a First Nation as well as photographs of places and activities that represent individual or community health and well-being or places that are considered safe, healthy, valued, or respected. **Third**, after the photos have been developed, you will be interviewed by Heather in a one-on-one situation for approximately one hour. If the one-on-one interview takes place in your home, Heather may ask about your personal collection of photographs. It is your decision as to whether you share any photographs taken prior to your involvement in this study with Heather. **Fourth**, you will participate in a group interview with other members of Huu-ay-aht First Nation for approximately two hours. In both interviews there are no right or wrong answers. Heather will ask you questions about what the photographs you have taken represent or mean to you. She may take notes and will use an audiotape during the interview. Following each interview, you will have the option of checking the transcript of the tape-recording as well as commenting on the key findings that emerged out of our discussions. Your comments may be used as part of her thesis. Careful measures will be taken to keep your information confidential and your identity will not be revealed. Heather will pay for the disposable camera and film developing.

HOW THIS RESEARCH WILL BE USED: When Heather has finished talking to people, she will combine all the information and present this back to the community. Heather will make all efforts to ensure that your identity is not revealed. Direct quotes of what you say may be used in future publications and presentations but they will not be attributed to you directly. The conclusions from this study will be given to the Huu-ay-aht First Nation leadership to help them better understand how community members feel about risks in the community. This is intended to help Huu-ay-aht First Nation Hereditary Chiefs and the Elected Chief and Council make responsible and responsive decisions about what should be done about different types of risks. None of the reports that are written or presentation that are given will have your name on them.

BENEFITS OF THIS STUDY: Heather and the people from your community are doing this research together as partners. This means that your community will help decide how the research should be done and how the results should be used. You may not benefit personally from your participation in this study. However, the information obtained from this research may aid in upholding Huu-ay-aht First Nation's current and future decisions regarding land use, particularly Cedar usage and Salmon habitat, in your traditional territory.

RISKS: People are sometimes uncomfortable about having their pictures taken. If you want to take photos with people in them, you must have these individuals sign a release form allowing you to include them in the photograph (these release forms will be provided by Heather). You also need to avoid taking pictures of things that are very personal and private. In terms of the photography exercise, your physical safety is more important than the spontaneity or the power of the image to be photographed. You must be aware of your surroundings and potential dangers at all time. Heather does not want anyone to get hurt while taking the pictures. You will need to be careful that you don't put anyone at risk or create a "risky event" for your picture. In terms of the individual and group interviews, your psychological well-being is a priority. You have the right to withdraw from the study at any time, including before, during, and after the interviews. You can ask Heather to strike comments that you have made from the transcripts if you are uncomfortable with them, and she will omit any photographs that you have taken if you decide that you do not want them used.

WITHDRAWAL FROM THE STUDY: You may refuse to participate or to later withdraw your consent, without penalty to you or Huu-ay-aht First Nation, by simply telling Heather. After you have reviewed your individual and group interview transcripts and associated preliminary analyses, you can decide that you do not want your information used, again, just by telling Heather.

CONFIDENTIALITY: Because this research is being conducted in a small community, it may not be possible to keep your participation and responses completely anonymous. However, your name will not be used and a pseudonym (fake name) will be employed to ensure anonymity and confidentiality in the academic and public dissemination of the research. All information shared during the one-on-one interview will be kept confidential and your identity will not be revealed unless you give your written permission. However, because this research also involves a group interview, the information you share during that interview will be heard by other participants and therefore not confidential or anonymous. You have the right to leave unanswered any questions you prefer not to answer. During the group interview Heather will request that all participants respect each other and maintain confidentiality of the views expressed during the interview after the interview has been concluded. All data will be locked in a secured cabinet or storage box at Heather's residence at Bamfield Marine Sciences Centre and in my assigned office space in Analca during the course of the study. Only the researchers employed on this project will have access to the data. When the study is complete, the interview tapes and data will be transferred to a locked cabinet at the Community, Health, and Environment Research Centre in the Department of Earth and

Atmospheric Sciences at the University of Alberta for five (5) years and then they will be destroyed.

CONSENT: Attached to this information sheet is a Consent Form. I will go through this information sheet and the consent form with you, answer any questions you might have about the research and your involvement in it, give you an opportunity to read consent form, and then you can decide if you want to sign it, thereby agreeing to participate in the study.

Contacts:	Community Advisory Committee:	University Researcher:
	Stella Peters	Heather Castleden
	Andy Clappis	250-727-7456
	Jane Peters	

Additional Contacts:
If you have any complaints or concerns about this research that you feel you cannot discuss with Heather, you can contact: Dr. Theresa Garvin, Department of Earth and Atmospheric Sciences, University of Alberta, Edmonton, AB T6G 2E3 (Phone: 780-492-4593).

Appendix 5: Verbal Recruitment Script

VERBAL RECRUITMENT SCRIPT

I am a graduate student under the direction of Dr Theresa Garvin in the Department Earth and Atmospheric Sciences at the University of Alberta. I am conducting a research study to identify, document, and understand Huu-ay-aht First Nation environmental and health risk perspectives.

I am recruiting members of Huu-ay-aht First Nation to participate in the project by taking pictures (at your leisure over a two-week period) and being interviewed one-on-one (which will take approximately 1 hour) and in a group (which will take approximately 2 hours).

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty to you or Huu-ay-aht First Nation. The results of the research may be published, but your name will not be used.

Would you be interested in receiving more information about the study?

Yes: Great! I will send you a letter/drop a letter off at your house detailing the study and what it would involve in terms of your participation (request contact information).
Maybe: OK, why don't you think about it. I could send you a letter/drop a letter off at your house detailing the study and what it would involve in terms of your participation.
No: OK, thanks for considering it.

If you have any questions concerning the research study, please call me at (250) 727-7456 or email at heather.castleden@ualberta.ca.

Appendix 6: Informed Consent Form A

CONSENT FORM A: Participation Research Project

As Sacred as Cedar and Salmon: Pict/Oral Representations of Risk from Huu-ay-aht First Nation

Researcher:
Heather Castleden, PhD Candidate
Dept. of Earth and Atmospheric Sciences
University of Alberta
Phone 250-727-7456
Email: heather.castleden@ualberta.ca

Do you understand that you have been asked to take part in a research study?	Yes	No
Have you read and received a copy of the attached Information Sheet?	Yes	No
Do you understand the benefits and risks involved in taking part in this research study?	Yes	No
Have you had an opportunity to ask questions and discuss this study with Heather?	Yes	No
Do you understand that you can quit taking part in this study at any time? You do not have to say why you have decided to withdraw.	Yes	No
Has the issue of confidentiality been explained to you?	Yes	No
Do you understand who will have access to the records from these discussions?	Yes	No
Do you understand that the information and photographs you provide will be used to create a community record that may be used to help make decisions about land uses on Huu-ay-aht First Nation's traditional territory?	Yes	No
Do you consent to being audio-taped?	Yes	No
Can Heather use the information and photographs you provide in the future to look at other problems related to risk and also for presentations and publications?	Yes	No

This study was explained to me by: ______________________________

I agree to take part in this study.

Printed name of Research Participant	Date	Signature of Research Participant
Printed Name of Researcher	Date	Signature of Researcher

Appendix 7: Informed Consent Form B

CONSENT FORM B: Subject of Photography

I hereby give permission to the project "As Sacred as Cedar and Salmon: Pict/oral Representations of Risk from Huu-ay-aht First Nation" to collect and use my name and photographic likeness in any format of public, academic, or media presentation or publication.

I understand that a research participant is taking a photograph(s) of me undertaking an activity that either represents environmental and health risk to the photographer or to the Huu-ay-aht as a First Nation or that represents individual or community health and well-being or places that are considered safe, healthy, valued, or respected.

I have the option of receiving a copy of my photograph. I understand that a copy of the final report will be available in the community and that I may choose to receive a copy of the final report.

I understand that I can contact Heather Castleden, the principal researcher, at (250) 727-7456 at any time regarding this project. I can also contact Heather's supervisor, Dr Theresa Garvin at the University of Alberta (780) 492 4593 regarding any concerns or complaints I have about Heather or the project.

Person in photo (print): ______________________________

Person in photo (signature): ______________________________

Date: ______________________________

Please place an "x" next to your response:

_____ I want my name identified on any captions associated with my picture in this thesis and future dissemination (community presentations, conference presentations, publications, media releases)

_____ I do not want my name identified on any captions associated with my picture under any circumstance.

_____ I only want my name identified under the following circumstances (please identify):

Witnessed by Participant/Photographer (signature): ________________________

Appendix 8: Informed Consent Form C

CONSENT FORM C: Release of Photographs

I, _________________________________, hereby give permission to Heather Castleden to use as part of her research project and publish any photographs that I have taken for the study titled "As Sacred as Cedar and Salmon: Pict/oral Representations of Risk from Huu-ay-aht First Nation." The purpose of this research has been to identify, document, and understand Huu-ay-aht First Nation environmental and health risk perspectives.

The study has been conducted by Heather Castleden, a PhD student in the Department of Earth and Atmospheric Sciences at the University of Alberta in partial fulfillment of the requirements for a Doctor of Philosophy degree. Heather Castleden has been conducting this study under the guidance of Dr Theresa Garvin of the University of Alberta. The Ethics Review Committee of the Faculty of Science at the University of Alberta has approved the study.

I understand that I can contact Heather Castleden at (250) 727-7456 at any time regarding this project. I can also contact Heather's supervisor, Dr Theresa Garvin at the University of Alberta (780) 492 4593 regarding any concerns or complaints I have about Heather Castleden or the project.

Participant/Photographer (print name): _________________________________

Participant/Photographer (signature): _________________________________

Date: _________________________________

Please place an "x" next to your response:

_____ All of my photographs may be used for publication and/or as part of the research project

_____ Only the following specified photographs may be used for publication and/or as part of the research project (please identify):

_____ I want to be identified as the photographer of my picture(s) in this thesis and future dissemination (community presentations, conference presentations, publications, media releases)

_____ I do not want to be identified as the photographer of my picture(s) under any circumstance.

_____ I only want to be identified under the following circumstances (please identify):

Researcher: _______________________________ Date: _____________________________

Appendix 9: Community Summary Announcement

As Sacred As Cedar and Salmon:
Pict/Oral Representations of Risk from Huu-ay-aht First Nation

PhD Research Project
Heather Castleden, PhD Candidate
University of Alberta

WHO:

I am a PhD student in Human Geography (study of peoples' relationship to land) from the University of Alberta and I am now living on Vancouver Island. I was born in the Northwest Territories, grew up mainly in Manitoba, and I am now raising my family on the Island while I continue my university studies.

WHAT:

This research, approved by the University of Alberta and the Hereditary Chiefs as well as the Elected Chief and Council, is a collaborative project with Huu-ay-aht First Nation. I am studying, from the community's perspective, environmental and health risks associated with resource development on Huu-ay-aht traditional territory, particularly in terms of Cedar usage and Salmon habitat.

WHEN and WHERE:

Starting in Fall, 2005 and anticipate completion in Fall, 2006 in the Huu-ay-aht First Nation community.

WHY:

I attended the Humiis T'ikwitlth (Cedar Symposium) in April 2005 and listened to the community's concern for and value of natural resources, particularly Cedar and Salmon. I want to do research that is responsive to First Nations' needs and I want to work with the Huu-ay-aht First Nation in creating a toolkit of resources that will be useful in future land use decisions.

VOLUNTEERS NEEDED:

Voluntary participants (Huu-ay-aht First Nation members from Anacla and Port Alberni) will be given disposable cameras to take pictures of places of environmental and health risk to the community and pictures of places that create feelings of safety, health, and well-being for the community. The pictures will be developed and participants will meet with me one-to-one and in a group to talk about the pictures they took and what the pictures mean to the community. Participants will get to keep copies of the pictures and keep copies of and be able to make comments on the interview transcripts and preliminary data analyses.

WHAT DOES HUU-AY-AHT FIRST NATION GAIN:

The Huu-ay-aht First Nation will gain a photographic and a written record of local sites representing environmental/health risks and environmental/health security and well being. Huu-ay-aht First Nation will receive a bound copy of the completed dissertation and a presentation of the research. Huu-ay-aht First Nation gains a collaborative research relationship with an experienced researcher, working with the guidance of a Huu-ay-aht First Nation Advisory Committee. Huu-ay-aht First Nation has the opportunity to build research capacity in the community through, for example, workshops on applying for research grants and research design.

WHAT DOES HEATHER GAIN:

I will learn more about Huu-ay-aht First Nation's values and goals, I will learn more about myself as a researcher, and I hope to meet many new friends along the way. I will complete the requirements for my PhD degree in Human Geography. I will also contribute to the academic arena and the community through written and oral communication of the research process and the research results.

FOR MORE INFORMATION OR TO VOLUNTEER IN THIS STUDY CONTACT:
Heather Castleden at 250-727-7456 (phone) or heather.castleden@ualberta.ca (email)
Community Advisory Committee: Stella Peters, Andy Clappis, and Jane Peters

Appendix 10: Training Session Instruction Sheet

Instruction Sheet for Participants

Your role as a participant in this research involves three parts:

1. taking pictures in your traditional territory of places and activities that represent: a) environmental and health risks to themselves as individuals or to Huu-ay-aht First Nation; and b) photographs of places and activities that represent individual or community health and well-being and are considered safe, healthy, valued, or respected.
2. participating in a one-to-one interview to tell me what the photographs mean to you and selecting the photographs you consider to be most significant
3. participating in a group interview to identify the issues, themes, and theories that emerge from the group's collection of photographs and shared stories

It is important to remember:

- When you carry a camera your role in the community changes.
- Cameras are very powerful tools because they are devices that record real life.
- When you carry a camera you must respect the privacy and rights of other individuals and the community.

Steps for taking pictures:

1. ENSURE YOUR OWN SAFETY AND THE SAFETY OF OTHERS AROUND YOU! Your safety is my top priority. I do not want you to risk endangering yourself for a great photo opportunity. No picture is worth taking if it causes your harm in any way.
2. Take two pictures, at slightly different angles or distances, of the particularly place or activity you wish to record.

*If you are taking a picture of a person(s), obtain verbal consent before the picture is taken and then obtain written consent immediately after the picture is taken. Offer to give the person(s) a copy of the picture that you have taken.

How to use a disposable camera indoors:

For indoor use, the flash must be used. You must let the flash fully power up before shooting by pressing this button and waiting for this light to flash, telling it is ready. The flash only has an effective distance of between 3-10 feet so keep that in mind when taking your picture.

How to use a disposable camera outdoors:

For outdoor use, try to avoid pictures where half of the subject is in shadows and the other half is in bright sunlight because the picture may not come out right.

If you have any questions about this training or any aspect of this research project, you are welcome to contact me by phone: 250-727-7456 or email: heather.castleden@ualberta.ca or at (community office space). You can also contact any member of the Community Advisory Committee (names of committee members) or Dr. Theresa Garvin by phone: 780-492-4593 or email: Theresa.garvin@ualberta.ca at the University of Alberta.

Thanks again for participating in this study!

Appendix 11: Training Session Script

Training Session Script

Greeting and welcome statement – thank you again for consenting to participate in this project.

Before we get this research underway, we need to have a brief summary discussion of what the purpose of this research is and what your responsibilities are, particularly in terms of the photography. I'd like to begin our discussion with a summary of what your role is in this study and then move into a discussion on cameras, ethics, and power; safety; and the importance of giving photographs back to community members as a way of expression appreciation, respect, and solidarity. Finally, I will address the mechanical aspects of camera use.

As you may recall from our earlier conversations, your role involves three parts:

4. taking pictures in your traditional territory
5. telling stories (contextualizing) of what the photographs mean to you and selecting the photographs you consider to be most significant (one-to-one interview)
6. identifying the issues, themes, and theories that emerge (codifying) from the group's collection of photographs and shared stories (group interview)

What is really neat about this method of research is that it creates an opportunity for Huu-ay-aht First Nation to define for yourselves and others, including policy makers, not only what is important to you and worth remembering but also what you feel needs to be changed.

Do you have any questions about your participation in this study? (respond to any questions)

In terms of cameras, ethics, and power, it is important that you realize that when you carry a camera your role in the community changes. Cameras are very powerful tools because they are devices that record real life. When you carry a camera you must respect the privacy and rights of other individuals and the community. That is why if you want to take a picture of anyone doing any particular activity, you must first obtain their verbal consent and then, after the picture is taken, you must ask them to sign this consent form (provide each participant with 10 copies of Consent Form B), which says that they have agreed to let you take their picture for this research and that they understand the purpose of this research. I realize that interrupting a photo opportunity to discuss the research project and obtain consent can have an impact on the spontaneity of the activity but it is important to do this to prevent any misunderstanding, build trust, and it may even create an opportunity for you to engage in a discussion with people and gain additional insight into the issue of environment and health risks in the community.

You might like to offer to give the person a copy of the picture you have taken and that is ok. I can make extra copies for you to share with people. You might also like to have your own picture taken doing a particular activity – I can help you out with that or if you would prefer to have someone else take your picture and that is ok too. I think the most important consideration, when taking pictures of other people is to ask yourself: "would I want someone taking a picture of me doing this particular activity?"

Do you have any questions about the consent forms or about your role as a photographer? (respond to questions)

The following are some shared questions that may surface during this training dialogue (these questions are based discussions that have arisen during previous Photovoice research projects):

What is an appropriate way to approach someone to take their picture?
Should someone take pictures of other people without their knowledge?
What kind of responsibility does carrying a camera confer?
What would you not want to be photographed doing?
To whom might you give copies of your photographs and what might be the implications?

Do you have any questions about what we have talked about so far? (respond to questions)

I would like to talk about safety precautions while you are out in the community and traditional territory. Your safety is my top concern. I do not want you to risk endangering yourself for a great photo opportunity. No picture is worth taking if it causes your harm in any way. So don't stand in front of an oncoming logging truck or chase a cougar or take a tumble over a waterfall!

Do you have any questions about safety or concerns about risks that you may encounter? (respond to questions)

The last thing I want to discuss is how to use this camera. It is a basic disposable camera that you can use indoors and outdoors (distribute camera). For indoor use, the flash must be used. You must let the flash fully power up before shooting by pressing this button and waiting for this light to flash, telling it is ready. The flash only has an effective distance of between 3-10 feet so keep that in mind when taking your picture. For outdoor use, try to avoid pictures where half of the subject is in shadows and the other half is in bright sunlight because the picture may not come out right. These instructions are also on the back of your camera in case you need a refresher before you start snapping photos. Please try to take two pictures of every place or activity you want to photograph, at two different angles just in case the first picture doesn't turn out exactly how you want it. The camera has 27 pictures and we need about 6 pictures of risky things and 6 pictures of safe/health things.

Do you have any questions about how to use this camera? (respond to questions)

Do you have any questions about any of the training items we have covered today or about the study or about how to begin? (respond to questions)

We are now finished the training component. You have two weeks to go out and take your pictures. You might want to spend a day or two thinking about what kinds of pictures you want to take before you take them or you may already have in mind what you want to capture on film. I will leave it entirely up to you. If you have any questions or need any assistance during this period, please don't hesitate to contact me. I will be here in the community most of the time. You can find me at (office space). You can also call me at (phone number) or email me at (heather.castleden@ualberta.ca). I will check in with you next week to see how things are going and then when you are all done taking pictures, we can schedule a time to do our interview, I will develop the film, and then we can look at the pictures together and you can tell me about them.

Thanks again for participating in this study!

Appendix 12: Semi-Structured Interview Guide

Interview Guide

Thank-you again for agreeing to participate in this study. I just wanted to remind you that during this interview I'll be recording our conversation on this tape machine. Recording the interview means I can listen to you, look at your pictures, and talk to you, rather than worrying about writing down every thing you say. It also means that when I look at everyone's interviews as a whole, I can make sure I got your words right. There are no right or wrong answers, we are just interested in what you think, so please do not worry about the things you say to me today. But if there is stuff you don't want to talk about that's ok. We'll just move on. If you say something that you don't want written down, just say so, and we can take it out. Even after you have completed the interview, you can decide that you do not want what you said to be used and we will not use your information. The only people who will see the interviewing material will be researchers employed on the project. When we have finished talking to people, we will combine all the information and present this back to the community. We will keep the information you have provided confidential and any comments you make will be identified using a fake name. At the end of this project, a final report will be written up and presented to Huu-ay-aht First Nation in Anacla. This report will help community leaders make decisions about what should be done about different types of health and environment risks in the community. Do you have any questions?

Participant's response.

Before we begin, I want to ask you about Cedar – this project started last year as a result of the Cedar Symposium in Port Alberni. They were talking about cedar usage in our community way back in the day and also nowadays and in the future. Is Cedar important to you? (Follow-up questions: What kind of meaning does it have for you? Do you use it? In what way? Anyone in your family carve or weave with it? Tell me about that. Are you concerned about cedar in our territory? Logging?)

Participant's response.

The other thing we wanted to look at in this project is salmon – is salmon important to you? (Follow-up questions: Why or why not? Do you eat it? Do you prepare it? How? Do you have enough? Have you always had enough? Do you worry about getting enough? How often do you eat it? What other sea foods to you eat? Do you encourage your family to eat it? Why or why not?)

Participant's response.

OK, thanks. So, this project grew from being just about concerns over cedar and salmon to concerns about y/our community's health and y/our environment in general. Can you tell me some of your health concerns? (Follow-up questions: Do you consider yourself to be a pretty healthy person? Do you think the community is healthy? What do you think makes a person healthy? What about health concerns for your family – is anything on your mind these days? Have your health concerns changed over time – say from when you were young to now?)

Participant's response.

And how about the environment – y/our surroundings, y/our reserve, y/our territory? Do you have any general or specific concerns about the environment?

Participant's response.

OK, let's look at your pictures – I am very excited to see what have and hear what you have to say!

For each photograph:

1. Where was this picture taken?
2. Tell me what you see here…
3. What is happening?
4. What does it mean?
5. How does this relate to your life?
6. How does this relate to Huu-ay-aht First Nation?
7. Why does this problem/strength exist?
8. What can we do to change it/protect it?

Participant's response.

Could you select two photographs among your collection, one that best represents environmental or health risk to you/Huu-ay-aht First Nation and one that best represents well-being or safety to the You/Huu-ay-aht First Nation.

Allow participant time to select photographs

Tell me why you selected these two photographs…

Participant's response.

What did you think of this process of taking pictures, looking at them, and talking about what they mean to you?

Participant's response.

Is there anything you would like to add at this time?

Participant's response.

Thank you very much for sharing your photographs and your stories with me. As was stated in the information sheet, you have the option of reviewing and commenting on the transcripts and preliminary analysis coming from our interview. I would like to re-emphasize that like everything that has been shared in this interview any comments on the transcripts will remain confidential. In future, should this information be used in any publications or presentations, a pseudonym, or fake name, will be assigned.

Are you interested in checking your transcript and providing feedback?

____ Yes. I will be contacting you as soon as the transcription and preliminary analysis is done.
____ No. I understand, that's fine.

Thank you again for participating in this interview. If you have any questions regarding this study, or questions regarding some of the issues we discussed, please do not hesitate to talk to me or talk to Heather who is leading the project. [END]

Appendix 13: Transcript Verification and Member-Checking Instruction Sheet

Transcript Verification and Member Checking

Hi (*participant's name*),

(*Personal Greeting*). I have finished listening to the interviews held with all the participants on the 'Environment and Health' research project and reading the transcripts for preliminary analysis. What I am doing for each interview is listening and reading each and then picking out what I think are the key themes or highlights of the interview. I am sharing my 'interpretation' of the highlights with each participant when I return your transcript and asking you to confirm whether my 'insights' are accurate or not. This is called 'transcript verification' and 'member-checking' – an important part of the social research we are doing together. The following are the key themes or highlights from our interview.

HIGHLIGHTS:

1. (*list all highlights*)

After you've had a chance to read your transcript and the highlights above – it'll be your turn to say "yeah, Heather, you are on the right track identifying the highlights" OR "No, you are way off and what I was trying to say was this…" You can elaborate on anything if you like, especially if you've had further thoughts on particular subjects. You can also remove comments from your interview that you do not wish to remain. It's entirely up to you.

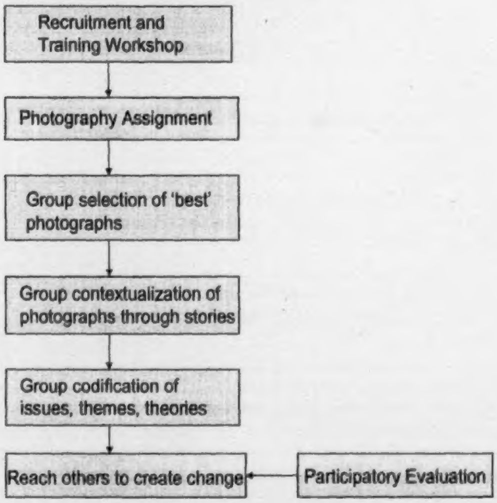
Please return the transcript and any feedback you have to me, in the stamped and addressed envelope provided, by *(insert date)*. If you do not wish to make any changes, than there is no need to send me anything.

If you have any questions at all, please contact me at the following:
Email: heather.castleden@ualberta.ca
Phone: 250-727-7456 or 250-858-8896.
Thanks!

Signature
Heather Castleden

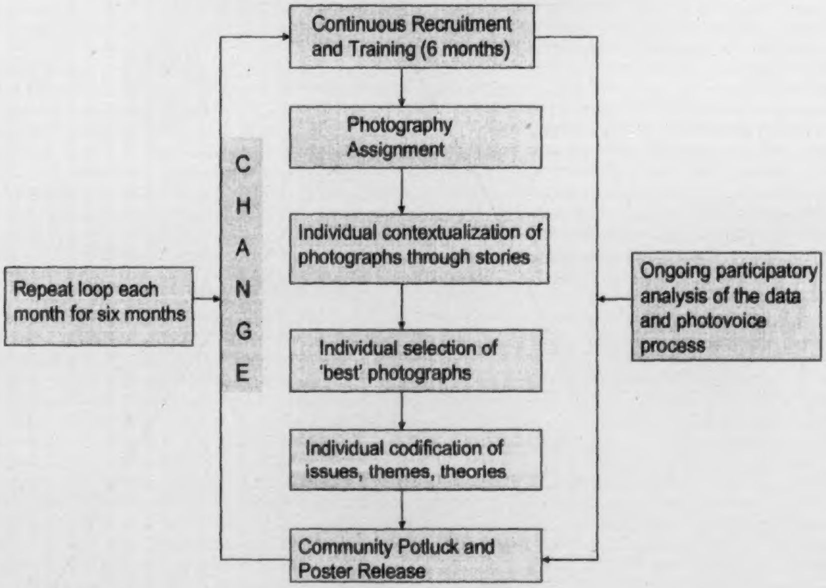
Appendix 14: Stages of Photovoice

Wang's Stages of Photovoice


Recruitment and Training Workshop
Photography Assignment
Group selection of 'best' photographs
Group contextualization of photographs through stories
Group codification of issues, themes, theories
Reach others to create change
Participatory Evaluation

Adapted from Wang, 2005 (http://www.photovoice.com)

Huu-ay-aht First Nation Stages of Photovoice


Continuous Recruitment and Training (6 months)
Photography Assignment
Individual contextualization of photographs through stories
Individual selection of 'best' photographs
Individual codification of issues, themes, theories
Community Potluck and Poster Release
CHANGE
Repeat loop each month for six months
Ongoing participatory analysis of the data and photovoice process

Research Poster 3: Here's what people from Huu-ay-aht First Nation are seeing and feeling about environment and health issues so far… What do they mean to you?

CAUTION
Active
Logging
7 Days a Week

Research Poster 2: Environment and Health Photography Research Project (Direct Quotes)
Come talk to us about what these pictures mean to you and how you can get involved!

Research Poster 3: Environment and Health Risks / Photography Research Project (Direct Quotes

[illegible] pictures mean to you and how you can still get involved

Research Poster 6: Environment and Health Photography Research Project (Check Quotes): Come and see the rest of the pictures [illegible] and how you can still be involved!

Research Poster 5: Cedar and Salmon/Environment and Health Photography Research Project

[illegible] – [illegible] research team, and the community advisory committee.

Huu-ay-aht First Nation
Earth & Atmospheric Sciences
ALBERTA